



RAE COPPER PROJECT

Spill Contingency Plan

v. 1.0

September 2024

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SPILL CONTINGENCY PLAN

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1. Introduction

White Cliff Minerals Ltd. (WCM) is a publicly traded Australian-based (WCM on the Australian Stock Exchange) and Canadian-registered mineral exploration company that owns a 100% interest in Rae Copper Exploration Project (the Project). The Project consists of mineral claims in the West Kitikmeot Region of Nunavut on a combination of Inuit Owned Lands and Crown Lands (Figure 1). The Project area is about 60 kilometres from the community of Kugluktuk in an area with a long history of mineral exploration. WCM is applying for authorizations to allow a drill-based exploration program and associated exploration camp within the boundaries of WCM's mineral claims and has developed this plan as a part of these applications.

The purpose of this Spill Contingency Plan (Plan) is to outline methods for preventing and responding to spills related to WCM exploration activities for the Project. This Plan has been developed in close alignment with the Guidelines for Spill Contingency Planning prepared by the Water Resources Division of Crown Indigenous Relation and Northern Affairs Canada (CIRNAC; CIRNAC 2007) and the Environmental Guideline: Spill Contingency Planning and Reporting Regulations (Government of Nunavut 2023) and, where appropriate, direct text from CIRNAC's 'Example Spill Contingency Plan' has been used.

WCM is responsible for activities associated with the Project, including implementation and management of this Plan. WCM's contact information is as follows:

White Cliff Minerals Ltd.
 3139 Leduc Crescent SW
 T3E 5X1
 Calgary, Alberta
 Phone: 403-809-4982
Contact: Eric Sondergaard
 Role: Country Manager
 Email: eric@wcminerals.com.au

Aurora Geosciences Ltd. (AGL) is WCM's exploration Program Manager. In some instances, WCM may delegate its authority for program components to AGL. AGL's contact information is as follows:

Aurora Geosciences Ltd.
 3506 McDonald Drive
 Yellowknife, NT
 X1A 2H1
 Phone: 867-920-2729
Contact: David White/Gary Vivian
 Role: Program Manager
 Email: David.white@aurorageosciences.com, gary.vivian@aurorageosciences.com

RainCoast Environmental (RainCoast) is WCM's primary technical point of contact for environmental, permitting and engagement matters. RainCoast's contact information is as follows:

RainCoast Environmental Services Ltd.
 221 Trincomali Heights
 Salt Spring Island, BC, V8K 1M9
 Phone: 250-538-2306
Contact: Katsky Venter
 Role: Environmental Advisor
 Email: Katsky.venter@gmail.com

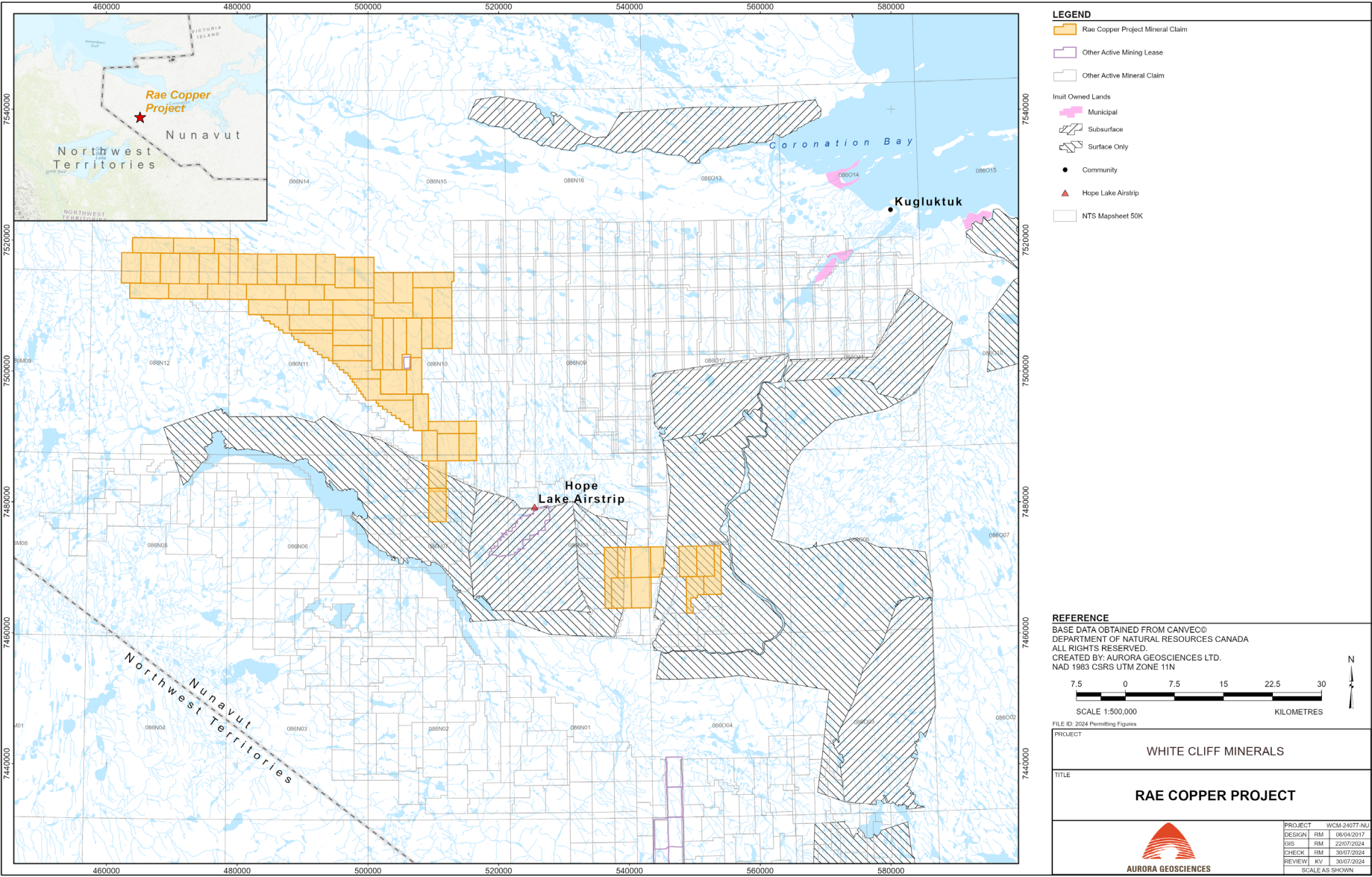


Figure 1. Rae Copper Project Location

2. Project Description

The Rae Copper Project is proposed to be a seasonal drilling-based exploration program based out of a temporary tent-based exploration camp (Figure 1).

The Project will be accessed by plane using the existing all-weather Hope Lake Airstrip or a winter ice strip and/or by helicopter. Supplies may also be brought in by winter trail from Kugluktuk using low pressure vehicles (e.g. those on tracks or skids such as snowmobiles, snow cats, and sloops) as is done for other projects in the region. Within the Project area, access would primarily be by helicopter and foot, although winter trails or roads may be used when ground and snow/ice conditions permit. No all-weather roads are proposed.

The exploration camp will be comprised of temporary tent structures used for accommodations, food preparation, dining, office space, core cutting, and ablutions. Smaller structures will also be erected to house toilets (i.e., pit [outhouse], pinto, or incinerating toilets), pump house, and generators. Portable fly camps may also be seasonally used to support activities at remote locations. A full description of proposed structures and equipment is provided in WCM's application.

The camp will typically house around 25 people during seasonal drilling activities but could host up to 45 people when at peak activity. Camp water needs, including kitchen, showers, sinks, and core cutting, will be sourced from a nearby lake. Project wastes would include general camp wastes, greywater, toilet blackwater, core cutting and drill wastes, and ash from incineration and open burning. No landfill is proposed. A dual chambered forced air incinerator may be used to incinerate suitable wastes. Untreated wood, cardboard, and paper may also be open burnt but open burning will be minimized to the extent practical. Except for incinerated/open burnt wastes and wastes deposited in sumps, all wastes will be backhauled to an approved waste management facility outside of Nunavut.

Exploration will primarily be undertaken using diamond drills, although similarly sized reverse circulation (RC) drills may be utilized. The RC drill, like a Hornet, does not require water. Other activities typically associated with exploration may also be undertaken, such as aerial or ground-based surveys and sampling, staking, environmental monitoring and baseline studies, and archaeological assessment. Drill support and movement will be by helicopter or overland by winter trail or road. Drill water will be sourced from waterbodies proximal to drill targets and drill waste will be discharged to sumps, typically nearby natural depressions.

All sumps and fuel storage will be located at least 31 m from the Ordinary High Water Mark (OHWM) and a Spill Contingency Plan will be implemented.

Exploration activities will be undertaken seasonally, typically in summer and late winter but this may vary by activity. Each year, all activities will be seasonally shut down during the calving (May 28 to July 3) and post calving (June 21 to July 3) periods of the Blue Nose East Caribou herd. Outside of these periods, exploration activities would usually extend from a few weeks to a few months in duration each season.

A list of hazardous materials stored on site is provided in Table 2-1.

Table 2-1 Hazardous Materials Stored on Site

Material	Maximum quantity	Number of containers	Capacity of tank	Type of tank	Location
Diesel	80,000 L	400	205 L	Barrel or ECCC Approved Tanks/containers	Camp, remote caches, drill sites
Aviation fuel (JetA and/or JetB)	80,000 L	400	205 L	Barrel	Camp, remote Caches, drill sites
Gasoline	4,100 L	20	205 L	Barrel	Camp, remote Caches, drill sites
Propane	1,800 kg	40	45 kg	100 lb cylinders	Camp
Other: various lubricants, including drilling fluids	2,000 L	Varies	1 L to 22 L	Tubes, cans, and pails	Camp, drill sites

3. Spill Prevention Measures

Hazardous materials will be transported to site by air or potentially over land by winter trail from Kugluktuk. Materials will be unloaded by pilots and/or project staff, and carefully placed in designated fuel storage areas. Any bulk fuel containers used will be designed, or supplied, with 110% containment. Spill kits will be located wherever fuel is stored or transferred. Portable drip trays and appropriately sized fuel transfer hoses with pumps will be used when refuelling to avoid any leaks/drips onto the land. Spill containment and trays may be equipped with a rain drain or otherwise managed to ensure rain or meltwater buildup is minimized. The Camp Manager, or designate, will conduct daily visual inspections to check for leaks or damage to the fuel storage containers, as well as for stained or discoloured soils around fuel storage areas and adjacent motorized equipment. For example, the lids/caps of fuel storage containers will be checked for tight seals and placed at 9 and 3 on the clock scale. A checklist will be used to verify that no areas have been missed, and the results of the inspections will be recorded in the company database. Regular maintenance and oil checks of all motorized equipment will also be undertaken to avoid preventable leaks. Small equipment will have disposable pads underneath the machinery to catch any leaks.

Greywater, blackwater, water from core cutting, and drill waste will be deposited into sumps at least 31 m away from the closest OHWM of the closest waterbody. The sumps and any conveyance pipes will be inspected regularly for leaks, overflow, or downslope impacts.

4. Response Organization

Site-based roles will be assigned by WCM and/or AGL prior to the commencement of activities associated with the Project.

All personnel will be trained in basic spill prevention as well as spill response procedures and available spill response materials and their use. All personnel will be responsible for daily inspections of their work area, stopping any observed spills when safe to do so, and notifying the Camp Manager. All personnel will be responsible for cleaning up any spills promptly, to the extent safe to do so.

The Camp Manager will be responsible for storage and management of materials in a manner that reduces the likelihood and potential impact of any spill, as well as verifying that all appropriate Safety Data Sheets (SDS) are easily accessible on site (e.g., in the camp office). The Camp Manager will also ensure all personnel are trained in basic spill prevention as well as spill response procedures and available spill response materials and their use.

The Camp Manager, or designate, will be responsible for checking the condition of fuel storage containers daily, and keeping spill kits and absorbent mats available and replenished at each fuel cache.

The Camp Manager, or work area supervisor, will be responsible for ensuring that all spills are cleaned up promptly and appropriately (i.e., in alignment with this Plan and the applicable SDS), and will document each spill. If the spill quantity triggers external reporting requirements, the Camp Manager will promptly (within 24 hours) notify the Spill Line (see Table 6-1). If needed, the Camp Manager will request additional aid from external sources.

If one or more of the key personnel are absent from the site, an alternative person will be named in their stead.

5. Reporting Procedure

All spills will be reported to the Camp Manager who will ensure they are appropriately documented (date, location, substance and quantity spilled, and clean up undertaken) and addressed.

If a spill meets the reporting thresholds outlined in Appendix A, a Spill Report Form (Appendix B) will be completed and submitted by the Camp Manager. Reports will be submitted immediately to the Northwest Territories (NWT) and NU 24-hour Spill Report Line (Spill Line) at (867) 920-8130 and/or emailed to spills@gov.nt.ca. This Spill Line is used throughout NU to inform all relevant government departments (federal, territorial and/or Indigenous) that a spill has occurred. The information to be reported is outlined on the Spill Report Form. Information reported to the Spill Line is available for the public to view upon request by contacting the Spill Line or by viewing the Government of Nunavut Spills Environmental Data Management System online (https://edms.blumetric.ca/gn_spills/).

If the public may be impacted by a spill, the appropriate community governments will also be notified immediately.

5.1 MEDIA AND PUBLIC ENQUIRIES

All media and public inquiries are to be directed to the WCM Country Manager (see Table 6-1). If the Country Manager is not available, there will be another WCM staff member available to act in this position. If a reporter, or member of the public, arrives at the site unexpectedly, the official in charge of responding to their questions will be the Camp Manager or acting Camp Manager. Prior to responding to their questions, they should make every effort possible to contact the Country Manager to discuss the situation.

The Camp Manager should always keep the Country Manager informed of any news or updates of potential interest to the media or general public, such that the company is prepared to deal with inquiries at any time.

6. Action Plan

6.1 GENERAL SPILL RESPONSE PROCEDURES

General spill response actions to be undertaken by any individual when a spill is detected are to:

- Prioritize the safety of all personnel
- Assess spill hazards and risks
- Remove all sources of ignition
- Stop the spill if safely possible (e.g., shut off the pump, replace the cap, tip drum upward, patch the leaking hole). Use the contents of the nearest spill kit to aid in stopping the spill if it is safe to do so. Tyvek suits, chemical gloves, and goggles will be located in the spill kit and should be worn if there is any risk of being in contact with hazardous or potentially hazardous spilled materials.
- No matter what the volume is, immediately notify the Camp Manager via two-way radio
- Contain the spill – use contents of spill kits to place sorbent materials on the spill or use a shovel to dig a dyke or trench to contain the spill. Methods will vary depending on the nature of the spill. See Section 6.2 for more details
- Implement cleanup and remedial measures as required by the Inspector

SDS for all hazardous materials involved in this project are listed in Appendix C.

If the ability to contain or clean up the spill is beyond the capabilities of the camp equipment and personnel, additional resources and support may be required (Table 6-1).

Table 6-1. Contact Information for Additional Information or Assistance Regarding Spills

Contact	Phone Number
<i>Regulatory Bodies</i>	
NT-NU Spill Centre 24-hour Spill Report Line	867-920-8130
Environment Canada Environmental Enforcement 24 Hour Duty Officer Edmonton	(780) 499-2432
National Environmental Emergencies Center (NEEC) Toll-Free	(866) 283-2333
RCMP Detachment Kugluktuk	(867) 982-0123
Kitikmeot Inuit Association Senior Lands Officer, Tannis Bolt	867-982-3310
Crown-Indigenous Relations and Northern Affairs Canada	867-982-4306 867-222-2839

Inspector, Baba Pedersen

<i>Contractors</i>	
Aurora Geosciences Yellowknife	(867) 920-2729
RainCoast Environmental Services	(250) 538-2306
<i>Company</i>	
White Cliff Minerals - Eric Sondergaard (Country Manager)	(403) 809-4982
White Cliff Minerals - Sam Vaughn	+44 7850-240281

6.2 RESPONSE PROCEDURES BY SPILL ENVIRONMENT

6.2.1 Spills on Land

Response to spills on land will include the general procedures previously detailed. The main spill control techniques involve the use of two types of barriers: dykes and trenches. Barriers should be placed down-gradient (down-slope) from the source of the spill, and as close as possible to the source of the spill. Barriers slow the progression of the spill and serve as containment to allow for recovery of the spilled material.

Depending on the volume spilled, the site of the spill and available material, a dyke may be built with soil, booms, lumber, core boxes, or snow, etc. A plastic liner should be placed at the foot of, and over, the dyke to protect the underlying soil or other material and to facilitate recovery of the spill. Dykes should be constructed in such a way as to accumulate a thick layer of free product in a single area (e.g., V-shaped or U-shaped).

Trenches are useful in the presence of permeable soil, and when the spilled material is migrating below the ground surface. A plastic liner should be placed on the down-gradient edge of the trench to protect the underlying soil. In the event of an oil spill, liners should not be placed at the bottom of the trench to allow water to continue flowing underneath the layer of floating oil.

The use of large quantities of absorbent materials to recover large volumes of material should be avoided. Large volumes of free product should be recovered, as much as possible, by using vacuums and pumps, and containerized. Mixtures of water and oil or fuel may be processed through an oil- or fuel-water separator. Absorbent sheets should be used to soak up residual oil or fuel on water, on the ground (soil and rock), and on vegetation.

6.2.2 Spills on Water

Response to spills on water includes the general procedures previously detailed. The following elements must be taken into consideration when conducting response operations on water:

- Type of waterbody or watercourse (lake, stream, river)
- Water depth and surface area
- Wind speed and direction

- Resonance and range of tides
- Type of shoreline
- Seasonal considerations (open-water, freeze-up, break-up, frozen)

Containment of an oil slick on water requires the deployment of mobile floating booms to intercept, control, contain, and concentrate the floating oil. One end of the boom may be anchored to shore while the other is towed by a boat, or other means, and used to circle the oil slick and return it close to shore for recovery. Reducing the surface area of the slick increases its thickness and thereby improves recovery. Mechanical recovery equipment (i.e., skimmers and oil/water separators) will be mobilized to site, if required.

If it is not possible to deploy booms using a boat, measures should be taken to protect sensitive and accessible shorelines. The oil slick should be monitored to determine the direction of migration. In the absence of strong winds, the oil will likely flow towards the discharge of the lake. Measures should be taken to block and concentrate the oil slick at the lake discharge using booms where it will subsequently be recovered using a portable skimmer, vacuum, or sorbent materials.

In small, slowly flowing rivers, streams, channels, inlets or ditches, inverted weirs (i.e., siphon dams) may be used to stop and concentrate moving oil for collection, while allowing water to continue to flow unimpeded. In the case of floating oil in a stream heading for a culvert (i.e., at a road crossing), a culvert block may be used to stop and concentrate moving oil for collection, while allowing water to continue to flow unimpeded. In both cases, oil will then be recovered using a portable skimmer or sorbent materials.

6.2.3 Spills on Snow and Ice

In general, snow and ice will slow the movement of spills. However, the presence of snow may hide a spill and make it more difficult to follow its progression. Snow is generally a good natural sorbent, as many materials (e.g., hydrocarbons) tend to be soaked up by snow through capillary action. However, the use of snow as a sorbent material is to be limited as much as possible. Snow and frozen ground can also prevent spilled material from migrating down into the soil, or at least slow the migration process. Ice can prevent seepage of fuel and other materials into water.

Response to spills on snow and ice includes the general procedures previously detailed. Most response procedures for spills on land may be used for spills on snow and ice. The use of dykes (i.e., compacted snow berms lined with plastic sheeting) or trenches (dug in ice) slow the progression of the spills and serve as containment to allow spill recovery. Free product will be recovered by using a vacuum, a pump, or sorbent materials. Contaminated snow and ice will be scraped up manually or using heavy equipment, depending on volumes. Contaminated snow and ice will be placed in containers or within plastic-lined berms on land well away from any waterbody (>31 m). Once enough snow has melted, any oily water will be removed from storage and processed through an oil-water separator that would be mobilized to the site.

Additional methodologies for addressing spills may also be employed with any necessary approvals by government authorities. This includes in-situ combustion of hydrocarbons and chemical response methods, such as the use of dispersants, emulsion-treating agents, visco-elastic agents, herding agents, solidifiers, and shoreline-cleaning agents. Biological response methods may also be employed, including nutrient enrichment and natural microbe seeding. Any such activities will only be undertaken on the advice and approval of government authorities.

6.3 PROCEDURES FOR TRANSFERRING, STORING, AND MANAGING SPILL RELATED WASTES

In most cases, spill cleanups will be initiated at the far end of the spill and contained moving toward the centre of the spill. Sorbent socks and pads will be generally used for small spill clean-ups. A pump with an attached fuel transfer hose may be used to suction spills from leaking containers or large accumulations on land or ice and direct these larger quantities into empty drums. Hand tools such as cans, shovels, and rakes are also very effective for small spills or hard-to-reach areas. Heavy equipment may be used if deemed necessary, given space and time constraints.

Used sorbent materials will be to be placed in plastic bags for future disposal. All materials mentioned in the spill inventory (Section 7) will be maintained on-site. Following clean-up, any tools or equipment used will be properly washed and decontaminated or replaced if this is not possible.

Spilled petroleum products and materials used for containment will be placed into empty waste oil containers and sealed for proper disposal at an approved disposal facility. Contaminated soils will require testing prior to disposal.

For further information on the management and disposal of any wastes generated in relation to spill response activities, see the Waste Management Plan.

6.4 PROCEDURES FOR RESTORING AFFECTED AREAS

Once a spill of reportable size has been contained, WCM will consult with the Inspector to determine the level of clean-up required. The Inspector may require a site-specific study to ensure appropriate clean-up levels are met. Criteria that may be considered include natural biodegradation of oil, natural revegetation, and replacement of soil.

7. Spill Response Equipment Inventory

The following items will be made available on-site to allow the action plan to be executed in the event of a spill:

- Personal protective equipment (gloves, Tyvek suits, goggles)
- Trenching/digging equipment (picks, shovels, and rakes)
- Sorbent materials (pads – either universal or a combination of hydrophilic and hydrophobic)
- Booms
- Pumps
- Plug and dike
- Impervious sheeting (tarps or plastic liners)
- Plastic bags, buckets, empty drums, bladders and/or instabermers for collection of contaminated material

Smaller spill kits will be located at each drill site to facilitate the immediate cleanup of smaller spills.

Additional resources may be obtained as needed from off-site suppliers, including larger pumps, skimmers, oil-water separators, Bobcats, and excavators.

8. Training and Exercise

All contract personnel will be briefed on general spill prevention and response procedures and given a copy of this Plan before they commence field activities. This training will provide employees an understanding of the hazards of the materials stored on-site, the action plan, where to find and how to use spill response supplies, and how to obtain off-site resources. Additional spill response training may be provided to key personnel, such as how to operate and maintain oil water filters, separation units, and pumps, and spill-response exercises will be conducted periodically to confirm that the response procedures, communications, and reporting requirements are understood and effective.

This training will be conducted annually and will be documented as training sign-off sheets signed off by project personnel that received the training.

Appendix A - Reportable Spill Volumes

Unplanned releases of the materials and volumes listed below are immediately reportable.

Description of Contaminant	Amount Spilled	TDG Class
Explosives	Any amount	1.0
Compressed gas (toxic/corrosive)	Any amount	2.3/2.4
Infectious substances	Any amount	6.2
Sewage and wastewater (unless otherwise authorized)	Any amount	6.2
Radioactive materials	Any amount	7.0
Unknown substance	Any amount	None
Compressed gas (Flammable)	Any amount of gas from containers with a capacity greater than 100 L	2.1
Compressed gas (Non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100 L	2.2
Flammable liquid	≥ 100 L	3.1/3.2/3.3
Flammable solid	≥ 25 kg	4.1 4.2
Substances liable to spontaneous combustion	≥ 25 kg	4.1 4.2
Water reactant substances	≥ 25 kg	4.3
Oxidizing substances	≥ 50 L or 50 kg	5.1
Organic peroxides	≥ 1 L or 1 kg	5.2
Environmentally hazardous substances intended for disposal	≥ 1 L or 1 kg	9.0
Toxic substances	≥ 5 L or 5 kg	6.1 8.0
Corrosive substances	≥ 5 L or 5 kg	9.0
Miscellaneous products, substances or organisms	≥ 5 L or 5 kg	
PCB mixtures of 5 or more parts per million	≥ 0.5 L or 0.5 kg	9.0
Other contaminants, e.g. crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, wastewater, etc.	≥ 100 L or 100 kg	None
Sour natural gas (i.e., contains H ₂ S)	Uncontrolled release or sustained flow of 10 minutes or more	None
Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more	None
Flammable liquid	≥ 20 L	3.1/3.2/3.3
Vehicle fluids	When released on a frozen water body that is being used as a working surface	None
Reported releases or potential releases of any size that:	Any amount	None
<ul style="list-style-type: none"> • Are near or in an open water body; • Are near or in a designated sensitive environment or habitat; • Pose an imminent threat to human health or safety; or Pose an imminent threat to a listed species at risk or its critical habitat		

Appendix B - Spill Report Form

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY					
A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	<div style="border: 1px solid black; padding: 5px; width: 100%;">REPORT NUMBER</div>	
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME			
C	LAND USE PERMIT NUMBER (IF APPLICABLE)		WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION		REGION <input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS		LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION			
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION			
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER		
H	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER		
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES		
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS				
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE
REPORT LINE USE ONLY					
N	RECEIVED AT SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLED	REPORT LINE NUMBER
		STATION OPERATOR		YELLOWKNIFE, NT	(867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					

PAGE 1 OF ____

Instructions for Completing the NT-NU Spill Report Form

This form can be filled out electronically and faxed to the spill line at 867-873-6924. Commencing on January 2, 2007, the form can also be e-mailed as an attachment to spills@gov.nt.ca. Until further notice, please verify receipt of e-mail transmissions with a follow-up telephone call. Spills can still be phoned in by calling collect at 867-920-8130.

A. Report Date/Time	The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. Please do not fill in the Report Number: the spill line will assign a number after the spill is reported.
B. Occurrence Date/Time	Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).
C. Land Use Permit Number /Water Licence Number	This only needs to be filled in if the activity has been licenced by the Nunavut Water Board and/or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.
D. Geographic Place Name	In most cases, this will be the name of the city or town in which the spill occurred. For remote locations - outside of human habitations - identify the most prominent geographic feature, such as a lake or mountain and/or the distance and direction from the nearest population center. You must include the geographic coordinates (Refer to Section E).
E. Geographic Coordinates	This only needs to be filled out if the spill occurred outside of an established community such as a mine site. Please note that the location should be stated in degrees, minutes and seconds of Latitude and Longitude.
F. Responsible Party Or Vessel Name	This is the person who was in management/control/ownership of the substance at the time that it was spilled. In the case of a spill from a ship/vessel, include the name of the ship/vessel. Please include full address, telephone number and e-mail. Use box K if there is insufficient space. Please note that, the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.
G. Contractor involved?	Were there any other parties/contractors involved? An example would be a construction company who is undertaking work on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and/or is responding to the spill.
H. Product Spilled	Identify the product spilled; most commonly, it is gasoline, diesel fuel or sewage. For other substances, avoid trade names. Wherever possible, use the chemical name of the substance and further, identify the product using the four digit UN number (eg: UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B)
I. Spill Source	Identify the source of the spill: truck, ship, home heating fuel tank and, if known, the cause (eg: fuel tank overflow, leaking tank; ship ran aground; traffic accident, vandalism, storm, etc.). Provide an estimate of the extent of the contaminated/impacted area (eg: 10 m ²)
J. Factors Affecting Spill	Any factors which might make it difficult to clean up the spill: rough terrain, bad weather, remote location, lack of equipment. Do you require advice and/or assistance with the cleanup operation? Identify any hazards to persons, property or equipment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.
K. Additional Information	Provide any additional, pertinent details about the spill, such as any peculiar/unique hazards associated with the spilled material. State what action is being taken towards cleaning up the spill; disposal of spilled material; notification of affected parties. If necessary, append additional sheets to the spill report. Number the pages in the same format found in the lower right hand corner of the spill form: eg. "Page 1 of 2", "Page 2 of 2" etc. Please number the pages to ensure that recipients can be certain that they received all pertinent documents. If only the spill report form was filled out, number the form as "Page 1 of 1".
L. Reported to Spill Line by	Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.
M. Alternate Contact	Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.
N. Report Line Use Only	Leave Blank. This box is for the Spill Line's use only.

Appendix C - Safety Data Sheets

Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Extremely flammable aerosol.

Contains gas under pressure; may explode if heated.

Harmful if swallowed.

Causes serious eye irritation.

Causes skin irritation.

May be fatal if swallowed and enters airways.

May cause drowsiness or dizziness.

May damage fertility or the unborn child.

Causes damage to organs:

cardiovascular system |

sensory organs |

Causes damage to organs through prolonged or repeated exposure:

nervous system |

sensory organs |

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Rinse mouth.
Do NOT induce vomiting.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.
This product contains methanol. If there is a reasonable suspicion of methanol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

13% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Toluene	108-88-3	35 - 45 Trade Secret *
Acetone	67-64-1	20 - 30 Trade Secret *
Methyl Alcohol	67-56-1	10 - 15 Trade Secret *
Propane	74-98-6	10 - 15 Trade Secret *
Diacetone Alcohol	123-42-2	5 - 10 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. Get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Aspiration pneumonitis (coughing, gasping, choking, burning of the mouth, and difficulty breathing). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details. Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required

This product contains methanol. If there is a reasonable suspicion of methanol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management. Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe

dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
Toluene	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
Diacetone Alcohol	123-42-2	ACGIH	TWA:50 ppm	
Diacetone Alcohol	123-42-2	OSHA	TWA:240 mg/m3(50 ppm)	
Methyl Alcohol	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Danger of cutaneous absorption
Methyl Alcohol	67-56-1	OSHA	TWA:260 mg/m3(200 ppm)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	simple asphyxiant
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions.

Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

Half facepiece or full facepiece supplied-air respirator

Organic vapor respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Liquid

Color

Colorless

Specific Physical Form:

Aerosol

Odor

Solvent

Odor threshold

No Data Available

pH

Not Applicable

Melting point

No Data Available

Boiling Point

No Data Available

Flash Point

-50.00 °F

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

No Data Available

Vapor Density

>=1 [Ref Std: AIR=1]

Density

0.776 g/ml

Specific Gravity

0.776 [Ref Std: WATER=1]

Solubility in Water

Slight (less than 10%)

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

Decomposition temperature

No Data Available

Viscosity

Not Applicable

Hazardous Air Pollutants

3.44 lb HAPS/gal [Test Method: Calculated]

Molecular weight

No Data Available

Volatile Organic Compounds

580 g/l [Test Method: calculated SCAQMD rule 443.1]

Volatile Organic Compounds

74.8 % weight [Test Method: calculated per CARB title 2]

Percent volatile

100 % weight

VOC Less H2O & Exempt Solvents

771 g/l [Test Method: calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Formaldehyde	Not Specified
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

May be harmful if inhaled.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

May cause additional health effects (see below).

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Harmful if swallowed. Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:**Single exposure may cause target organ effects:**

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

May cause blindness.

Single exposure, above recommended guidelines, may cause: Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Prolonged or repeated exposure may cause target organ effects:

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >20 - ≤50 mg/l
Overall product	Ingestion		No data available; calculated ATE >300 - ≤2,000 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Methyl Alcohol	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
Methyl Alcohol	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Methyl Alcohol	Ingestion		LD50 estimated to be 50 - 300 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Diacetone Alcohol	Dermal	Rabbit	LD50 13,645 mg/kg
Diacetone Alcohol	Inhalation-Vapor (4 hours)	Rat	LC50 > 7.6 mg/l
Diacetone Alcohol	Ingestion	Rat	LD50 3,002 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Toluene	Rabbit	Irritant
Acetone	Mouse	Minimal irritation
Methyl Alcohol	Rabbit	Mild irritant
Propane	Rabbit	Minimal irritation
Diacetone Alcohol	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Toluene	Rabbit	Moderate irritant
Acetone	Rabbit	Severe irritant
Methyl Alcohol	Rabbit	Moderate irritant
Propane	Rabbit	Mild irritant
Diacetone Alcohol	Rabbit	Severe irritant

Skin Sensitization

Name	Species	Value
Toluene	Guinea pig	Not classified
Methyl Alcohol	Guinea pig	Not classified
Diacetone Alcohol	Guinea pig	Not classified

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methyl Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methyl Alcohol	In vivo	Some positive data exist, but the data are not sufficient for classification
Propane	In Vitro	Not mutagenic
Diacetone Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Methyl Alcohol	Inhalation	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
Acetone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis
Methyl Alcohol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,600 mg/kg/day	21 days
Methyl Alcohol	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
Methyl Alcohol	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis
Diacetone Alcohol	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
Diacetone Alcohol	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	44 days
Diacetone Alcohol	Ingestion	Toxic to development	Rabbit	NOAEL 100 mg/kg/day	during gestation

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Methyl Alcohol	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
Methyl Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Methyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
Methyl Alcohol	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse

Methyl Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	
Diacetone Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
Diacetone Alcohol	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	
Diacetone Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Diacetone Alcohol	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1,882 mg/kg	
Diacetone Alcohol	Ingestion	liver	Not classified	Rat	NOAEL 1,882 mg/kg	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Toluene	Inhalation	auditory system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart liver kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
Acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks

Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Methyl Alcohol	Inhalation	liver	Not classified	Rat	NOAEL 6.55 mg/l	4 weeks
Methyl Alcohol	Inhalation	respiratory system	Not classified	Rat	NOAEL 13.1 mg/l	6 weeks
Methyl Alcohol	Ingestion	liver nervous system	Not classified	Rat	NOAEL 2,500 mg/kg/day	90 days
Diacetone Alcohol	Inhalation	liver kidney and/or bladder	Not classified	Rat	NOAEL 4.5 mg/l	6 weeks
Diacetone Alcohol	Ingestion	endocrine system liver kidney and/or bladder hematopoietic system nervous system eyes	Not classified	Rat	NOAEL 600 mg/kg/day	13 weeks

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Flammable (gases, aerosols, liquids, or solids)

Gas under pressure

Health Hazards

Acute toxicity

Aspiration Hazard

Reproductive toxicity

Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**Ingredient****C.A.S. No****% by Wt**

Toluene

108-88-3

Trade Secret 35 - 45

Methyl Alcohol

67-56-1

Trade Secret 10 - 15

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 4 Instability: 0 Special Hazards: None
Aerosol Storage Code: 2

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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4+ Polar Max

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Date of issue: 08/03/2016

Revision date: 07/19/2019

Version: 2.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : 4+ Polar Max
 Product code : Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Premium fuel enhancer

1.3. Details of the supplier of the safety data sheet

Manufacturer

DSG Power Systems Inc.
 230 29th Street East
 Saskatoon, SK S7L 6Y6 - Canada
 T 1-800-667-6879

Distributor

Innospec Fuel Specialties LLC
 8375 South Willow Street
 Littleton, Colorado 80124
 T 1-800-441-9547

1.4. Emergency telephone number

Emergency number : CANUTEC: 613-996-6666 (24hr) (Transport only)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Flam. Liq. 4
 Skin Irrit. 2
 Eye Irrit. 2A
 Carc. 2
 Asp. Tox. 1

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



GHS07

GHS08

Signal word (GHS) :

Danger

Hazard statements (GHS) :

Combustible liquid. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. May be fatal if swallowed and enters airways.

Precautionary statements (GHS) :

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wash hands, forearms and face thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. If exposed or concerned: Get medical advice/attention. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity

Not applicable

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Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Benzene, ethylenated, residues, distillation lights	(CAS-No.) 178535-25-6	30 - 60
Petroleum distillates, hydrotreated light	(CAS-No.) 64742-47-8	10 - 30
2-Ethylhexanol	(CAS-No.) 104-76-7	7 - 13
Benzene, 1,3,5-triethyl-	(CAS-No.) 102-25-0	5 - 10
Naphthalene	(CAS-No.) 91-20-3	0.5 - 1.5
Ethylene oxide	(CAS-No.) 75-21-8	< 0.01

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
- Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. May result in aspiration into the lungs, causing chemical pneumonia. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Powder, water spray, foam, carbon dioxide.
- Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible liquid. Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Advice for firefighters

- Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition. Use special care to avoid static electric charges. Use only non-sparking tools.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

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Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
- Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not get in eyes, on skin, or on clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Ethylene Oxide is subject to the standard 29 CFR 1910.1047, which may contain specific requirements for handling including protective equipment, regulated areas, monitoring and medical surveillance. The employer should review the standard and assure compliance with applicable requirements.
- Hygiene measures : Take off contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed.
- Storage conditions : Keep out of the reach of children. Keep container tightly closed and in a well-ventilated place. Protect from sunlight. Do not store at temperatures above 49 °C / 120 °F. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Petroleum distillates, hydrotreated light (64742-47-8)		
Not applicable		
Ethylene oxide (75-21-8)		
ACGIH	ACGIH TWA (ppm)	1 ppm
OSHA	OSHA PEL (TWA) (ppm)	1 ppm
OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1047)
IDLH	US IDLH (ppm)	800 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.18 mg/m ³ (less than stated value)
NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm (less than stated value)
NIOSH	NIOSH REL (ceiling) (mg/m ³)	9 mg/m ³
NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm
Benzene, ethylenated, residues, distillation lights (178535-25-6)		
Not applicable		
Benzene, 1,3,5-triethyl- (102-25-0)		
Not applicable		
Naphthalene (91-20-3)		
ACGIH	ACGIH TWA (ppm)	10 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	50 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	10 ppm
IDLH	US IDLH (ppm)	250 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	50 mg/m ³

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Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Naphthalene (91-20-3)		
NIOSH	NIOSH REL (TWA) (ppm)	10 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	75 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	15 ppm
2-Ethylhexanol (104-76-7)		
Not applicable		

8.2. Exposure controls

Appropriate engineering controls	: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.
Hand protection	: Wear suitable gloves resistant to chemical penetration.
Eye protection	: Wear eye/face protection.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental exposure controls	: Avoid release to the environment.
Other information	: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Colourless
Odour	: Aromatic
Odour threshold	: No data available
pH	: No data available
Melting point	: -51.5 °C (-60.7 °F)
Freezing point	: No data available
Boiling point	: 218.8 °C (425.8 °F)
Flash point	: 70 °C (158 °F) (CC)
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Combustible liquid
Vapour pressure	: 0.01 kPa /0.08 mmHg @20 °C (68 °F)
Relative vapour density at 20 °C	: 5.49
Relative density	: 0.91
Solubility	: Partially soluble.
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: 400 °C (752 °F)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: Lower explosive limit (LEL): 0.6 vol % Upper explosive limit (UEL): 7 vol %
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

4+ Polar Max

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

10.2. Chemical stability

Stable under normal conditions. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Sources of ignition. Incompatible materials.

10.5. Incompatible materials

Oxidizing agents. Fluorine.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5.2 mg/l/4h

Ethylene oxide (75-21-8)	
LD50 oral rat	72 mg/kg
LD50 oral	72 mg/kg
LC50 inhalation rat	800 ppm
ATE CA (oral)	72 mg/kg bodyweight
ATE CA (Gases)	700 ppmv/4h
ATE CA (vapours)	3 mg/l/4h
ATE CA (dust,mist)	0.5 mg/l/4h

Naphthalene (91-20-3)	
LD50 oral rat	1780 mg/kg
LD50 dermal rabbit	10000 mg/kg
LC50 inhalation rat	> 340 mg/m ³ (Exposure time: 1 h)
ATE CA (oral)	1780 mg/kg bodyweight
ATE CA (Dermal)	10000 mg/kg bodyweight

2-Ethylhexanol (104-76-7)	
LD50 oral rat	3730 mg/kg
LD50 dermal rabbit	1980 mg/kg
LC50 inhalation rat	> 227 ppm (Exposure time: 6 h)
ATE CA (oral)	3730 mg/kg bodyweight
ATE CA (Dermal)	1980 mg/kg bodyweight
ATE CA (Gases)	4500 ppmv/4h
ATE CA (vapours)	11 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Suspected of causing cancer.

Ethylene oxide (75-21-8)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens

4+ Polar Max

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Ethylene oxide (75-21-8)	
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes
Naphthalene (91-20-3)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list	Yes
Reproductive toxicity	: Not classified.
STOT-single exposure	: Not classified.
Ethylene oxide (75-21-8)	
STOT-single exposure	May cause respiratory irritation.
2-Ethylhexanol (104-76-7)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified.
Ethylene oxide (75-21-8)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways. May result in aspiration into the lungs, causing chemical pneumonia. May cause stomach distress, nausea or vomiting.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Petroleum distillates, hydrotreated light (64742-47-8)	
LC50 fish 1	45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	2.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
Ethylene oxide (75-21-8)	
LC50 fish 1	84 mg/l
EC50 Daphnia 1	137 - 300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Naphthalene (91-20-3)	
LC50 fish 1	5.74 - 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])
2-Ethylhexanol (104-76-7)	
LC50 fish 1	32 - 37 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	39 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	> 7.5 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

12.2. Persistence and degradability

4+ Polar Max	
Persistence and degradability	Not established.

4+ Polar Max

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

12.3. Bioaccumulative potential

4+ Polar Max	
Bioaccumulative potential	Not established.
Petroleum distillates, hydrotreated light (64742-47-8)	
BCF fish 1	61 - 159
Ethylene oxide (75-21-8)	
Partition coefficient n-octanol/water	-0.3 (at 25 °C)
Naphthalene (91-20-3)	
BCF fish 1	30 - 430
Partition coefficient n-octanol/water	3.6
2-Ethylhexanol (104-76-7)	
Partition coefficient n-octanol/water	3.1

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

UN-No.(DOT/TDG) : UN3082

Proper Shipping Name (DOT/TDG) : Environmentally hazardous substance, liquid, n.o.s. (2-Ethylhexyl nitrate, Light ends of polyethylbenzene residue)

Class (DOT/TDG) : Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Packing group (DOT/TDG) : III

Hazard labels (DOT/TDG) :



SECTION 15: Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

15.3. US State regulations

⚠ WARNING: This product can expose you to Ethylene oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Revision date : 07/19/2019

Other information : None.

4+ Polar Max

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Prepared by

: Nexreg Compliance Inc.

www.Nexreg.com



Indication of changes:

Modified. Regulatory information.

SDS HazCom 2012 - WHMIS 2015 (NexReg)

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.



Advance ^{TM/MC} Clean Rinse Aid

Revision: 2019-03-12

Version: 01.0

1. IDENTIFICATION

Product name: Advance ^{TM/MC} Clean Rinse Aid
Product Code: 3318284, 3318292
SDS #: MS0800542
Recommended use:

- Industrial/Institutional
- Warewashing product
- This product is intended to be used neat.

Uses advised against: Uses other than those identified are not recommended

Manufacturer, importer, supplier:

US Headquarters Diversey 8215 Forest Point Blvd. Charlotte, NC 28273-5509 Phone: 1-888-352-2249 SDS Internet Address: https://sds.diversey.com	Canadian Headquarters Sealed Air - Canada 3755 Laird Road Units 8-11 Mississauga, Ontario L5L 0B3 Phone: 1-800-668-7171
--	---

Emergency telephone number: 1-800-851-7145; 1-651-917-6133 (Int'l)

2. HAZARDS IDENTIFICATION

Classification for the undiluted product

This product is not classified as hazardous according to OSHA 29CFR 1910.1200 (HazCom 2012-GHS) and Canadian Hazardous Products Regulations (HPR) (WHMIS 2015-GHS).

Hazard Statements

None required.

Precautionary Statements

None required.

Health hazards not otherwise classified (HHNOC) - Not applicable

Physical hazards not otherwise classified (PHNOC) - Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Classified Ingredients

Ingredient(s)	CAS #	Weight %
Sodium alkyl sarcosinate	137-16-6	> 0.1 - < 1%

*Exact percentages are being withheld as trade secret information

4. FIRST AID MEASURES

Undiluted Product:

Eyes: Rinse with plenty of water. If irritation occurs and persists, get medical attention.

Skin: No specific first aid measures are required.

Inhalation: No specific first aid measures are required.

Advance ^{TM/MC} Clean Rinse Aid

Ingestion: Rinse mouth with water.

Most Important Symptoms/Effects: No information available.

Immediate medical attention and special treatment needed Not applicable.

Aggravated Medical Conditions: None known.

5. FIRE-FIGHTING MEASURES

Specific methods: No special methods required
Suitable extinguishing media: The product is not flammable. Extinguish fire using agent suitable for surrounding fire.
Specific hazards: None known.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Extinguishing media which must not be used for safety reasons: No information available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Put on appropriate personal protective equipment (see Section 8.).
Environmental precautions and clean-up methods: Clean-up methods - large spillage. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Use a water rinse for final clean-up.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.

Storage: Keep tightly closed in a dry, cool and well-ventilated place.

Aerosol Level (if applicable) : Not applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Undiluted Product:

Engineering measures to reduce exposure:

Good general ventilation should be sufficient to control airborne levels.

Personal Protective Equipment

Eye protection:	No personal protective equipment required under normal use conditions.
Hand protection:	No personal protective equipment required under normal use conditions.
Skin and body protection:	No personal protective equipment required under normal use conditions.
Respiratory protection:	No personal protective equipment required under normal use conditions.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Evaporation Rate: No information available

Odor threshold: No information available.

Melting point/range: Not determined

Autoignition temperature: No information available

Solubility in other solvents: No information available

Density: 8.43 lbs/gal 1.011 Kg/L

Bulk density: No information available

Flash point (°F): > 200 °F > 93.3 °C

Viscosity: 5 No information available

VOC: 0 % *

Flammability (Solid or Gas): Not applicable

Sustained combustion: Not applicable

Explosion limits: - upper: Not determined - lower: Not determined

Color: Clear, Blue

Odor: Product specific

Boiling point/range: Not determined

Decomposition temperature: Not determined

Solubility: Completely Soluble

Relative Density (relative to water): 1.011

Vapor density: No information available

Vapor pressure: No information available.

Partition coefficient (n-octanol/water): No information available

Elemental Phosphorus: 0.00 % by wt.

pH: 8.0

Corrosion to metals: Not corrosive

* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

10. STABILITY AND REACTIVITY

Reactivity:	Not Applicable
Stability:	The product is stable
Hazardous decomposition products:	None reasonably foreseeable.
Materials to avoid:	Do not mix with any other product or chemical unless specified in the use directions.
Conditions to avoid:	No information available.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Skin contact, Inhalation, Eye contact

Delayed, immediate, or chronic effects and symptoms from short and long-term exposure

Skin contact: Unlikely to be irritant in normal use.

Eye contact: May be mildly irritating to eyes.

Ingestion: No information available.

Inhalation: No information available.

Sensitization: No known effects.

Target Organs (SE): None known

Target Organs (RE): None known

Numerical measures of toxicity

ATE - Oral (mg/kg): >5000

ATE - Inhalatory, mists (mg/l): 5.7

12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products (undiluted product): This product, as sold, if discarded or disposed, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the waste solution meets RCRA criteria for hazardous waste. Dispose in compliance with all Federal, state, provincial, and local laws and regulations.

RCRA Hazard Class (undiluted product): Not Regulated

Contaminated Packaging: Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT/TDG/IMDG: The information provided below is the full transportation classification for this product. This description does not account for the package size(s) of this product, that may fall under a quantity exception, according to the applicable transportation regulations. When shipping dangerous goods, please consult with your internal, certified hazardous materials specialist to determine if any exceptions can be applied to your shipment.

DOT (Ground) Bill of Lading Description: NOT REGULATED

IMDG (Ocean) Bill of Lading Description: NOT REGULATED

15. REGULATORY INFORMATION

International Inventories at CAS# Level

All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

RIGHT TO KNOW (RTK)

Ingredient(s)	CAS #	MARTK:	NJRTK:	PARTK:	RIRTK:
Water	7732-18-5	-	-	-	-
Polyoxypropylene-polyoxyethylene block copolymer	9003-11-6	-	-	-	-
Sodium alkyl sarcosinate	137-16-6	-	-	-	-

CERCLA/ SARA**Canadian Regulations****16. OTHER INFORMATION****NFPA (National Fire Protection Association)**

Rating Scale: (Low Hazard) 0 - 4 (Extreme Hazard)

Health 0

Flammability 0

Instability 0

Special Hazards -

Revision: 2019-03-12

Version: 01.0

Reason for revision:

Not applicable

Prepared by:

North American Regulatory Affairs

Additional advice:

• Does not contain an added fragrance

• This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations

Notice to Reader: This document has been prepared using data from sources considered technically reliable. It does not constitute a warranty, express or implied, as to the accuracy of the information contained within. Actual conditions of use and handling are beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.



AMC 133X

AMC

Chemwatch: 15-6631

Version No: 7.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 12/23/2022

Print Date: 02/14/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC 133X
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drilling additive.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
63748-98-1		mineral oil
Not Available		anionic polymer

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with fresh running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes or combustion products are inhaled remove from contaminated area.▶ Lay patient down. Keep warm and rested.▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.▶ Transport to hospital, or doctor.

Ingestion

- ▶ If swallowed do **NOT** induce vomiting.
- ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- ▶ Observe the patient carefully.
- ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- ▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

- ▶ Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- ▶ In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- ▶ High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

NOTE: Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

SECTION 5 Fire-fighting measures**Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.

Special hazards arising from the substrate or mixture**Fire Incompatibility**

- ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters**Fire Fighting**

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear breathing apparatus plus protective gloves.

Fire/Explosion Hazard

- ▶ Combustible.
- ▶ Slight fire hazard when exposed to heat or flame.

Combustion products include:

carbon dioxide (CO₂)

nitrogen oxides (NO_x)

other pyrolysis products typical of burning organic material.

CARE: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up**Minor Spills**

- Slippery when spilt.
- ▶ Remove all ignition sources.
- ▶ Clean up all spills immediately.

Major Spills

- Slippery when spilt.
- Moderate hazard.
- ▶ Clear area of personnel and move upwind.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**Precautions for safe handling****Safe handling**

- ▶ Avoid all personal contact, including inhalation.

Continued...

	<ul style="list-style-type: none"> ▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none"> ▸ Store in original containers. ▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<p>Avoid contamination of water, foodstuffs, feed or seed.</p> <ul style="list-style-type: none"> ▸ CARE: Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire. ▸ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	mineral oil	Not Available	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - Manitoba Occupational Exposure Limits	mineral oil	Not Available	Not Available	Not Available	Not Available	TLV® Basis: URT irr
Canada - Prince Edward Island Occupational Exposure Limits	mineral oil	Mineral oil, excluding metal working fluids - Pure, highly and severely refined	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - Prince Edward Island Occupational Exposure Limits	mineral oil	Mineral oil, excluding metal working fluids - Poorly and mildly refined	Not Available	Not Available	Not Available	TLV® Basis: URT irr
Canada - British Columbia Occupational Exposure Limits	mineral oil	Oil mist - mineral, mildly refined	0.2 mg/m3	Not Available	Not Available	Not Available
Canada - British Columbia Occupational Exposure Limits	mineral oil	Oil mist - mineral, severely refined	1 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	mineral oil	Oil mist - mineral	5 mg/m3	10 mg/m3	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - Alberta Occupational Exposure Limits	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	mineral oil	Mineral oil (mist): Little or unrefined	Not Available	Not Available	Not Available	C2: carcinogenic effect suspected in humans EM: A substance to which exposure must be reduced to a minimum RP: A substance which may not be recirculated


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	mineral oil	Mineral oil (mist): Pure, highly and ultra-refined - inhalable dust	5 mg/m3	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
mineral oil	140 mg/m3	1,500 mg/m3	8,900 mg/m3

Ingredient	Original IDLH	Revised IDLH
mineral oil	2,500 mg/m3	Not Available

MATERIAL DATA**Exposure controls**

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	Wear general protective gloves, eg. light weight rubber gloves.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: <ul style="list-style-type: none"> ▸ Overalls.

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS	-	A-PAPR-AUS / Class 1
up to 50 x ES	-	A-AUS / Class 1	-
up to 100 x ES	-	A-2	A-PAPR-2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 Physical and chemical properties**Information on basic physical and chemical properties**

Appearance	Liquid with a hydrocarbon odour, emulsifies with water.		
Physical state	Liquid	Relative density (Water = 1)	1.08
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available

Continued...

Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Available
Flash point (°C)	>100	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Partly miscible	pH as a solution (1%)	8.1
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Inhalation hazard is increased at higher temperatures. Not normally a hazard due to non-volatile nature of product Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives . The material may accentuate any pre-existing dermatitis condition
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

AMC 133X	TOXICITY	IRRITATION
	Not Available	Not Available
mineral oil	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

MINERAL OIL	<p>The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:</p> <ul style="list-style-type: none"> The adverse effects of these materials are associated with undesirable components, and The levels of the undesirable components are inversely related to the degree of processing; Distillate base oils receiving the same degree or extent of processing will have similar toxicities;
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· The potential toxicity of *residual base oils* is independent of the degree of processing the oil receives.

· The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing. The degree of refining influences the carcinogenic potential of the oils. Whereas mild acid / earth refining processes are inadequate to substantially reduce the carcinogenic potential of lubricant base oils, hydrotreatment and / or solvent extraction methods can yield oils with no carcinogenic potential.

Unrefined and mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential carcinogenic and mutagenic activities.

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC 133X	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
mineral oil	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal.
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SECTION 14 Transport information

Labels Required

Continued...

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS****Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS****Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
mineral oil	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
mineral oil	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

mineral oil is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

National Inventory Status

National Inventory	Status
Australia - AIC / Australia Non-Industrial Use	No (mineral oil)
Canada - DSL	No (mineral oil)
Canada - NDSL	No (mineral oil)
China - IECSC	No (mineral oil)
Europe - EINEC / ELINCS / NLP	No (mineral oil)
Japan - ENCS	Yes
Korea - KECI	No (mineral oil)
New Zealand - NZIoC	No (mineral oil)
Philippines - PICCS	No (mineral oil)
USA - TSCA	No (mineral oil)
Taiwan - TCSI	No (mineral oil)
Mexico - INSQ	No (mineral oil)
Vietnam - NCI	No (mineral oil)
Russia - FBEPH	No (mineral oil)
Legend:	<i>Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	06/09/2008

Continued...

SDS Version Summary

Version	Date of Update	Sections Updated
6.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
7.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AII: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC 1300

AMC

Chemwatch: 15-6632

Version No: 7.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 12/23/2022

Print Date: 03/15/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC 1300
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Flocculant.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

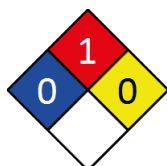
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
----------------	----------------

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
63748-98-1		<u>mineral oil</u>

SECTION 4 First-aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with fresh running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes or combustion products are inhaled remove from contaminated area.▶ Lay patient down. Keep warm and rested.▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.▶ Transport to hospital, or doctor.
Ingestion	<ul style="list-style-type: none">▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.▶ Observe the patient carefully.▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

Continued...

- ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- ▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

- ▶ Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- ▶ In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- ▶ High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

NOTE: Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

SECTION 5 Fire-fighting measures

Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. <p>Combustion products include: carbon dioxide (CO₂) nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material.</p> <p>CARE: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.</p>

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately.
Major Spills	<p>Slippery when spilt. Moderate hazard.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<p>Avoid contamination of water, foodstuffs, feed or seed.</p> <ul style="list-style-type: none"> • CARE: Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire. ▶ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection**Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	mineral oil	Not Available	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - Manitoba Occupational Exposure Limits	mineral oil	Not Available	Not Available	Not Available	Not Available	TLV® Basis: URT irr
Canada - Prince Edward Island Occupational Exposure Limits	mineral oil	Mineral oil, excluding metal working fluids - Pure, highly and severely refined	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - Prince Edward Island Occupational Exposure Limits	mineral oil	Mineral oil, excluding metal working fluids - Poorly and mildly refined	Not Available	Not Available	Not Available	TLV® Basis: URT irr
Canada - British Columbia Occupational Exposure Limits	mineral oil	Oil mist - mineral, mildly refined	0.2 mg/m3	Not Available	Not Available	Not Available
Canada - British Columbia Occupational Exposure Limits	mineral oil	Oil mist - mineral, severely refined	1 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	mineral oil	Oil mist - mineral	5 mg/m3	10 mg/m3	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - Alberta Occupational Exposure Limits	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	mineral oil	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	mineral oil	Mineral oil (mist): Little or unrefined	Not Available	Not Available	Not Available	C2: carcinogenic effect suspected in humans EM: A substance to which exposure must be reduced to a minimum RP: A substance which may not be recirculated
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	mineral oil	Mineral oil (mist): Pure, highly and ultra-refined - inhalable dust	5 mg/m3	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
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Continued...

Ingredient	TEEL-1	TEEL-2	TEEL-3
mineral oil	140 mg/m3	1,500 mg/m3	8,900 mg/m3

Ingredient	Original IDLH	Revised IDLH
mineral oil	2,500 mg/m3	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	<p>Wear general protective gloves, eg. light weight rubber gloves.</p> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p>
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▸ Overalls.

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS	-	A-PAPR-AUS / Class 1
up to 50 x ES	-	A-AUS / Class 1	-
up to 100 x ES	-	A-2	A-PAPR-2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Off-white opaque liquid with a hydrocarbon odour, mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.05
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available

Continued...

pH (as supplied)	8	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	360-900 cps @ 24C
Initial boiling point and boiling range (°C)	96	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	>93 (PMCC)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	23.97 (VOC)
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation hazard is increased at higher temperatures. Not normally a hazard due to non-volatile nature of product Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives . The material may accentuate any pre-existing dermatitis condition
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

AMC 1300	TOXICITY	IRRITATION
	Oral (Rat) LD50: >5000 mg/kg ^[2]	Not Available
mineral oil	TOXICITY	IRRITATION
	Not Available	Not Available

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

MINERAL OIL	The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has
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Continued...

undergone, since:

- The adverse effects of these materials are associated with undesirable components, and
 - The levels of the undesirable components are inversely related to the degree of processing;
 - Distillate base oils receiving the same degree or extent of processing will have similar toxicities;
 - The potential toxicity of *residual base oils* is independent of the degree of processing the oil receives.
 - The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.
- The degree of refining influences the carcinogenic potential of the oils. Whereas mild acid / earth refining processes are inadequate to substantially reduce the carcinogenic potential of lubricant base oils, hydrotreatment and / or solvent extraction methods can yield oils with no carcinogenic potential.
- Unrefined and mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential carcinogenic and mutagenic activities.

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC 1300	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
mineral oil	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data					

1% aqueous solution of a similar product: Sheepshead Minnow (96hrs) LC50: >1000 mg/l Rainbow Trout (96hrs) LC50: >1000 mg/l Daphnia magna (48hrs) LC50: 270 mg/l

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.
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Continued...

- ▶ It may be necessary to collect all wash water for treatment before disposal.
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Authority for disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
mineral oil	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
mineral oil	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

mineral oil is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (mineral oil)
Canada - DSL	No (mineral oil)
Canada - NDSL	No (mineral oil)
China - IECSC	No (mineral oil)
Europe - EINEC / ELINCS / NLP	No (mineral oil)
Japan - ENCS	Yes
Korea - KECI	No (mineral oil)
New Zealand - NZIoC	No (mineral oil)
Philippines - PICCS	No (mineral oil)
USA - TSCA	No (mineral oil)
Taiwan - TCSI	No (mineral oil)
Mexico - INSQ	No (mineral oil)
Vietnam - NCI	No (mineral oil)
Russia - FBEPH	No (mineral oil)

Continued...

National Inventory	Status
Legend:	<p>Yes = All CAS declared ingredients are on the inventory</p> <p>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</p>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	06/09/2008

SDS Version Summary

Version	Date of Update	Sections Updated
6.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
7.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit,
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index
 AII: Australian Inventory of Industrial Chemicals
 DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
 IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European INventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
 NLP: No-Longer Polymers
 ENCS: Existing and New Chemical Substances Inventory
 KECI: Korea Existing Chemicals Inventory
 NZIoC: New Zealand Inventory of Chemicals
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 TSCA: Toxic Substances Control Act
 TCSI: Taiwan Chemical Substance Inventory
 INSQ: Inventario Nacional de Sustancias Químicas
 NCI: National Chemical Inventory
 FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC BIO DEGRADABLE ROD GREASE

AMC

Chemwatch: 5202-38

Version No: 7.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 12/23/2022

Print Date: 02/14/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC BIO DEGRADABLE ROD GREASE
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Grease.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

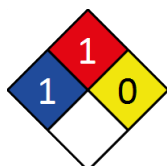
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	>60	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with fresh running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes or combustion products are inhaled remove from contaminated area.▶ Lay patient down. Keep warm and rested.▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.▶ Transport to hospital, or doctor.
Ingestion	<ul style="list-style-type: none">▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

Continued...

AMC BIO DEGRADABLE ROD GREASE

- ▶ Observe the patient carefully.
- ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- ▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures**Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.

Do not use water jets.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. <p>Combustion products include: carbon dioxide (CO₂) acrolein other pyrolysis products typical of burning organic material.</p>

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid contact with skin and eyes.
Major Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**Precautions for safe handling**

Safe handling	<p>Rags wet / soaked with unsaturated hydrocarbons / drying oils may auto-oxidise; generate heat and, in-time, smoulder and ignite. This is especially the case where oil-soaked materials are folded, bunched, compressed, or piled together - this allows the heat to accumulate or even accelerate the reaction</p> <p>Oily cleaning rags should be collected regularly and immersed in water, or spread to dry in safe-place away from direct sunlight or stored, immersed, in solvents in suitably closed containers.</p> <ul style="list-style-type: none"> ▶ Limit all unnecessary personal contact. ▶ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed.

AMC BIO DEGRADABLE ROD GREASE

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits


Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC BIO DEGRADABLE ROD GREASE	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
AMC BIO DEGRADABLE ROD GREASE	Not Available	Not Available

MATERIAL DATA

Exposure limit to the mist = 5 mg/m3 (TLV/TWA, ACCIH)

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	Wear general protective gloves, eg. light weight rubber gloves.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: <ul style="list-style-type: none"> ▶ Overalls.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

AMC BIO DEGRADABLE ROD GREASE

Material	CPI
PVC	A

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

Respiratory protection

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

Continued...

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Dark green to black semi-solid with characteristic vegetable oil odour; does not mix with water.		
Physical state	Non Slump Paste	Relative density (Water = 1)	0.92
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	<1 BuAC = 1	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Negligible
Vapour pressure (kPa)	<0.1 @20C	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	>1	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Not normally a hazard due to non-volatile nature of product Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	Excessive use or prolonged contact may lead to defatting, drying and irritation of sensitive skin
Eye	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

AMC BIO DEGRADABLE	TOXICITY	IRRITATION
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Continued...

AMC BIO DEGRADABLE ROD GREASE

ROD GREASE	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC BIO DEGRADABLE ROD GREASE	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ✗ DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Continued...

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
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Transport in bulk in accordance with the IGC Code

Product name	Ship Type
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SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

National Inventory	Status
Australia - AIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<i>Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	03/22/2016

SDS Version Summary

Version	Date of Update	Sections Updated
6.1	02/27/2020	Toxicological information - Acute Health (inhaled), Physical and chemical properties - Appearance, Exposure controls / personal protection - Engineering Control, Firefighting measures - Fire Fighter (extinguishing media), Firefighting measures - Fire Fighter (fire/explosion hazard), Composition / information on ingredients - Ingredients, Stability and reactivity - Instability Condition, Physical and chemical properties - Physical Properties, Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (storage requirement), Identification of the substance / mixture and of the company / undertaking - Supplier Information, Toxicological information - Toxicity and Irritation (Other)
7.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch

Continued...

AMC BIO DEGRADABLE ROD GREASE

Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC CLAY DOCTOR R

AMC

Chemwatch: 5324-07

Version No: 4.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 0

Issue Date: 12/23/2022

Print Date: 03/15/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC CLAY DOCTOR R
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.
--------------------------	---

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

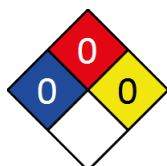
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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AMC CLAY DOCTOR R

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: <ul style="list-style-type: none">▶ Wash out immediately with water.▶ If irritation continues, seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: <ul style="list-style-type: none">▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If dust is inhaled, remove from contaminated area.▶ Encourage patient to blow nose to ensure clear passage of breathing.▶ If irritation or discomfort persists seek medical attention.
Ingestion	<ul style="list-style-type: none">▶ Immediately give a glass of water.▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
----------------------	-------------

Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">▸ Alert Fire Brigade and tell them location and nature of hazard.▸ Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	<ul style="list-style-type: none">▸ Non combustible.▸ Not considered a significant fire risk, however containers may burn.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none">▸ Clean up all spills immediately.▸ Avoid contact with skin and eyes.
Major Spills	<ul style="list-style-type: none">▸ Clear area of personnel and move upwind.▸ Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none">▸ Limit all unnecessary personal contact.▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none">▸ Store in original containers.▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none">▸ Lined metal can, lined metal pail/ can.▸ Plastic pail.
Storage incompatibility	Avoid contamination of water, foodstuffs, feed or seed.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC CLAY DOCTOR R	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
AMC CLAY DOCTOR R	Not Available	Not Available

MATERIAL DATA

It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne


Continued...

AMC CLAY DOCTOR R

concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience).

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> ▸ polychloroprene.
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▸ Overalls.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White to off-white granular solid; soluble in water.		
Physical state	Divided Solid	Relative density (Water =	Not Available

Continued...

AMC CLAY DOCTOR R

		1)	
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts.

AMC CLAY DOCTOR R	TOXICITY	IRRITATION
	Not Available	Not Available

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS.
Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

AMC CLAY DOCTOR R

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC CLAY DOCTOR R	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Management Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
------------------	----

Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Continued...

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
--------------	-------

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
--------------	-----------

SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<i>Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	09/17/2018

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
4.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

Continued...

AMC CLAY DOCTOR R

ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit,
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AII: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC COREWELL

AMC

Chemwatch: 30-9920

Version No: 7.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 0

Issue Date: 12/23/2022

Print Date: 03/15/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC COREWELL
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drilling fluid additive.
--------------------------	--------------------------

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

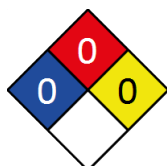
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
----------------	----------------

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	>60	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with water.▶ If irritation continues, seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none">▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If dust is inhaled, remove from contaminated area.▶ Encourage patient to blow nose to ensure clear passage of breathing.▶ If irritation or discomfort persists seek medical attention.
Ingestion	<ul style="list-style-type: none">▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.▶ Observe the patient carefully.▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Continued...

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">▸ Alert Fire Brigade and tell them location and nature of hazard.▸ Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	<ul style="list-style-type: none">▸ Non combustible.▸ Not considered a significant fire risk, however containers may burn.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none">▸ Clean up all spills immediately.▸ Avoid contact with skin and eyes.
Major Spills	<ul style="list-style-type: none">▸ Clear area of personnel and move upwind.▸ Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none">▸ Limit all unnecessary personal contact.▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none">▸ Store in original containers.▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none">▸ Lined metal can, lined metal pail/ can.▸ Plastic pail.
Storage incompatibility	Avoid contamination of water, foodstuffs, feed or seed.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC COREWELL	Not Available	Not Available	Not Available


Continued...

AMC COREWELL

Ingredient	Original IDLH	Revised IDLH
AMC COREWELL	Not Available	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> ▸ polychloroprene.
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▸ Overalls.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Off white powder; limited solubility due to viscosity.		
Physical state	Divided Solid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable

Continued...

AMC COREWELL

Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Partly miscible	pH as a solution (1%)	8.0-9.0 (0.5% sol)
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	Long term exposure to high dust concentrations may cause changes in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 micron penetrating and remaining in the lung. A prime symptom is breathlessness.

AMC COREWELL	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

AMC COREWELL

Toxicity

AMC COREWELL	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
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Transport in bulk in accordance with the IGC Code

Product name	Ship Type
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SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

Continued...

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<p><i>Yes = All CAS declared ingredients are on the inventory</i></p> <p><i>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i></p>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	02/29/2012

SDS Version Summary

Version	Date of Update	Sections Updated
6.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
7.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit,
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index
 AIIC: Australian Inventory of Industrial Chemicals
 DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
 IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC CR 650™

AMC

Chemwatch: 4902-92

Version No: 16.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 0

Issue Date: 12/23/2022

Print Date: 02/14/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC CR 650™
Chemical Name	Not Applicable
Synonyms	PHPA
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drilling fluid additive.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

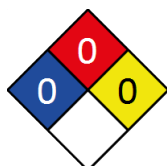
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with water.▶ If irritation continues, seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none">▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If dust is inhaled, remove from contaminated area.▶ Encourage patient to blow nose to ensure clear passage of breathing.▶ If irritation or discomfort persists seek medical attention.
Ingestion	<ul style="list-style-type: none">▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.▶ Observe the patient carefully.▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Continued...

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">▸ Alert Fire Brigade and tell them location and nature of hazard.▸ Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	<ul style="list-style-type: none">▸ Non combustible.▸ Not considered a significant fire risk, however containers may burn. <p>Decomposes on heating and produces toxic fumes of: carbon monoxide (CO) carbon dioxide (CO₂) nitrogen oxides (NO_x)</p>

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none">▸ Clean up all spills immediately.▸ Avoid contact with skin and eyes.
Major Spills	<ul style="list-style-type: none">▸ Clear area of personnel and move upwind.▸ Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none">▸ Limit all unnecessary personal contact.▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none">▸ Store in original containers.▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none">▸ Lined metal can, lined metal pail/ can.▸ Plastic pail.
Storage incompatibility	Avoid contamination of water, foodstuffs, feed or seed.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Continued...


AMC CR 650™

Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC CR 650™	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
AMC CR 650™	Not Available	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> ▸ polychloroprene.
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▸ Overalls.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White powder, soluble in water.		
Physical state	Divided Solid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available

Continued...

Melting point / freezing point (°C)	>150	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	5.0-9.0 (@ 5 g/L)
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Long term exposure to high dust concentrations may cause changes in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 micron penetrating and remaining in the lung. A prime symptom is breathlessness.

AMC CR 650™	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
✔ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC CR 650™	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
--------------	-------

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
--------------	-----------

SECTION 15 Regulatory information

Continued...

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<p><i>Yes = All CAS declared ingredients are on the inventory</i></p> <p><i>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i></p>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	09/16/2002

SDS Version Summary

Version	Date of Update	Sections Updated
15.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
16.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors

BEI: Biological Exposure Index
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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The product is with a concentration less than 5% in a drilling fluid as a non-hazardous chemical classified.



AMC FLOC BLOCKS™

AMC

Chemwatch: 17-9801

Version No: 8.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 0

Issue Date: 12/23/2022

Print Date: 02/14/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC FLOC BLOCKS™
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drilling fluid additive (floculant).
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

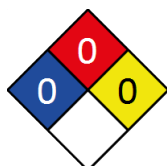
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	anionic polyacrylamide flocculant

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with fresh running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none">▶ Immediately give a glass of water.▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
----------------------	-------------

Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">▸ Use water delivered as a fine spray to control fire and cool adjacent area.▸ Do not approach containers suspected to be hot. Slight hazard when exposed to heat, flame and oxidisers.
Fire/Explosion Hazard	<ul style="list-style-type: none">▸ Non combustible.▸ Not considered a significant fire risk, however containers may burn. Decomposes on heating and produces toxic fumes of: carbon monoxide (CO) carbon dioxide (CO ₂)

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none">▸ Clean up all spills immediately.▸ Secure load if safe to do so.
Major Spills	Very slippery when spilled. Do not use water initially, shovel into suitable container for removal. Then use large amounts of water to remove traces of the material [AMC]

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none">▸ Limit all unnecessary personal contact.▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none">▸ Store away from incompatible materials.

Conditions for safe storage, including any incompatibilities

Suitable container	24 kg box, 8 x 3 kg tablets per container.
Storage incompatibility	Avoid contamination of water, foodstuffs, feed or seed.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC FLOC BLOCKS™	Not Available	Not Available	Not Available




Continued...

AMC FLOC BLOCKS™

Ingredient	Original IDLH	Revised IDLH
AMC FLOC BLOCKS™	Not Available	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	  
Eye and face protection	No special equipment for minor exposure i.e. when handling small quantities. OTHERWISE: ▸ Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	Wear general protective gloves, eg. light weight rubber gloves.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: ▸ Overalls.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Translucent to white tablet with a slight odour; soluble in water.		
Physical state	Manufactured	Relative density (Water = 1)	1.0
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	6.5	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Applicable
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Avoid extreme temperatures. Avoid humidity. [AMC] Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7

Continued...

AMC FLOC BLOCKS™

Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

AMC FLOC BLOCKS™	TOXICITY	IRRITATION
	Oral (Rat) LD50: >2000 mg/kg ^[2]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC FLOC BLOCKS™	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

Toxicity to fish: Fish general (Pisces) / 96 h / LC50: = > 100 ppm When tested in pure water Toxicity to aquatic invertebrates: Not tested Toxicity to aquatic plants: Not tested Toxicity to microorganisms: Not tested Assessment of aquatic toxicity: Not expected to cause long term adverse effects in the aquatic environment.
 Biodegradation: Not tested [AMC]
 May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
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Continued...

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations**Waste treatment methods**

Product / Packaging disposal	<ul style="list-style-type: none">▶ Recycle wherever possible or consult manufacturer for recycling options.▶ Consult State Land Waste Management Authority for disposal.
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SECTION 14 Transport information**Labels Required**

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS****Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS****Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
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Transport in bulk in accordance with the IGC Code

Product name	Ship Type
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SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available

Continued...

National Inventory	Status
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<i>Yes = All CAS declared ingredients are on the inventory</i> <i>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	10/20/2008

SDS Version Summary

Version	Date of Update	Sections Updated
7.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
8.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC K ION

AMC

Chemwatch Hazard Alert Code: 1

Chemwatch: 4751-58

Version No: 9.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 12/10/2021

Print Date: 07/11/2022

L.GHS.AUS.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	AMC K ION
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Drilling fluid additive. Use according to manufacturer's directions.
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Details of the supplier of the safety data sheet

Registered company name	AMC
Address	216 Balcatta Rd, Balcatta WA 6021 Australia
Telephone	+61 (8) 9445 4000
Fax	+61 (8) 9445 4040
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency telephone number

Association / Organisation	Chemwatch	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	1800 039 008	+61 1800 951 288
Other emergency telephone numbers	Not Available	+61 3 9573 3188

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 Hazards identification

Classification of the substance or mixture

NON-HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

ChemWatch Hazard Ratings

	Min	Max
Flammability	0	
Toxicity	1	
Body Contact	1	
Reactivity	0	
Chronic	0	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Poisons Schedule	Not Applicable
Classification ^[1]	Not Applicable

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	Ingredients determined not to be hazardous

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Continued...

Indication of any immediate medical attention and special treatment needed

For potassium intoxications:

- Hyperkalaemia, in patients with abnormal renal function, results from reduced renal excretion following intoxication.
- The presence of electrocardiographic evidence of hyperkalemia or serum potassium levels exceeding 7.5 mE/L indicates a medical emergency requiring an intravenous line and constant cardiac monitoring.
- The intravenous ingestion of 5-10 ml of 10% calcium gluconate, in adults, over a 2 minute period antagonises the cardiac and neuromuscular effects. The duration of action is approximately 1 hour. [Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 Firefighting measures**Extinguishing media**

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none">▸ Alert Fire Brigade and tell them location and nature of hazard.▸ Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	<ul style="list-style-type: none">▸ Non combustible.▸ Not considered to be a significant fire risk. <p>Decomposes on heating and produces toxic fumes of: carbon dioxide (CO₂) nitrogen oxides (NO_x)</p>
HAZCHEM	Not Applicable

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none">▸ Clean up all spills immediately.▸ Avoid breathing vapours and contact with skin and eyes.
Major Spills	<p>Minor hazard.</p> <ul style="list-style-type: none">▸ Clear area of personnel.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**Precautions for safe handling**

Safe handling	<ul style="list-style-type: none">▸ Limit all unnecessary personal contact.▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none">▸ Store in original containers.▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<p>20 L pails.</p> <ul style="list-style-type: none">▸ Polyethylene or polypropylene container.▸ Packing as recommended by manufacturer.
Storage incompatibility	None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available


Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC K ION	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
AMC K ION	Not Available	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▸ Overalls. ▸ P.V.C apron.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Odourless liquid, mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.09
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	>100	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available

Continued...

AMC K ION

Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	3.1 @ 25C	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (Not Available%)	7.0-9.0
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Not normally a hazard due to non-volatile nature of product	
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Acute potassium poisonings following ingestion are rare because large doses usually induce vomiting and a healthy kidney ensures rapid excretion. Potassium poisoning disturbs the rhythm of the heart (a slow, weak pulse, heightened T waves on the ECG, arrhythmias heart block) and eventually produces a fall in blood pressure (due to weakened cardiac contractility).	
Skin Contact	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.	
Eye	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.	
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.	
AMC K ION	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC K ION	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Continued...

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
--------------	-------

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
--------------	-----------

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available

Continued...

National Inventory	Status
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<p>Yes = All CAS declared ingredients are on the inventory</p> <p>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</p>

SECTION 16 Other information

Revision Date	12/10/2021
Initial Date	01/24/2011

SDS Version Summary

Version	Date of Update	Sections Updated
8.1	08/27/2021	Classification, Ingredients, Supplier Information
9.1	12/10/2021	Classification change due to full database hazard calculation/update.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index
 AII: Australian Inventory of Industrial Chemicals
 DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
 IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European INventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC LINSEED SOAP

AMC

Chemwatch: 16-8181

Version No: 10.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 0

Issue Date: 08/25/2022

Print Date: 03/20/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC LINSEED SOAP
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Core barrel lubricant.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

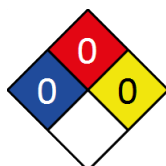
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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AMC LINSEED SOAP

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	natural fatty acids

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with fresh running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none">▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none">▶ Immediately give a glass of water.▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">▸ Alert Fire Brigade and tell them location and nature of hazard.▸ Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	May emit poisonous fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none">▸ Clean up all spills immediately.▸ Avoid breathing vapours and contact with skin and eyes.
Major Spills	<p>Slippery when spilt.</p> <p>Moderate hazard.</p> <ul style="list-style-type: none">▸ Clear area of personnel and move upwind.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none">▸ Avoid all personal contact, including inhalation.▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none">▸ Store in original containers.▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none">▸ Polyethylene or polypropylene container.▸ Packing as recommended by manufacturer.
Storage incompatibility	None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits




Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC LINSEED SOAP	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
AMC LINSEED SOAP	Not Available	Not Available

MATERIAL DATA

AMC LINSEED SOAP

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Individual protection measures, such as personal protective equipment	  
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▸ Overalls. ▸ P.V.C apron.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Amber-brown liquid with a faint soap odour, mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.0-1.01
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	<11	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	0 (freezing pt)	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	100	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7

AMC LINSEED SOAP

Hazardous decomposition products

See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.
Chronic	Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially at higher temperatures. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

AMC LINSEED SOAP	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✔ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC LINSEED SOAP	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
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AMC LINSEED SOAP

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. <ul style="list-style-type: none">▶ DO NOT allow wash water from cleaning or process equipment to enter drains.▶ It may be necessary to collect all wash water for treatment before disposal.▶ Recycle wherever possible.▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
--------------	-------

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
--------------	-----------

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available

AMC LINSEED SOAP

National Inventory	Status
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<i>Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

SECTION 16 Other information

Revision Date	08/25/2022
Initial Date	10/07/2008

SDS Version Summary

Version	Date of Update	Sections Updated
9.1	08/24/2022	Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Supplier Information
10.1	08/25/2022	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (skin), Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Supplier Information

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC LIQUIPOL

AMC

Chemwatch: 60815

Version No: 6.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 06/17/2021

Print Date: 02/14/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC LIQUIPOL
Chemical Name	Not Applicable
Synonyms	LIQUI POL
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drilling fluid additive.
--------------------------	--------------------------

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

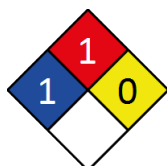
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
----------------	----------------

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
64742-47-8.	20-44	C14-20 aliphatics (<=2% aromatics)
Not Available	balance	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with water.▶ If irritation continues, seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none">▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.▶ Observe the patient carefully.▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.▶ Seek medical advice.▶ Avoid giving milk or oils.▶ Avoid giving alcohol.

Continued...

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For petroleum distillates

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption - decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function.
- Positive pressure ventilation may be necessary.
- Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.
- Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

BP America Product Safety & Toxicology Department

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.
- Dry chemical powder.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
-----------------------------	--

Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">▸ Alert Fire Brigade and tell them location and nature of hazard.▸ Wear full body protective clothing with breathing apparatus.
Fire/Explosion Hazard	<ul style="list-style-type: none">▸ Combustible.▸ Slight fire hazard when exposed to heat or flame. Combustion products include: carbon dioxide (CO ₂) other pyrolysis products typical of burning organic material. May emit corrosive fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none">▸ Remove all ignition sources.▸ Clean up all spills immediately.
Major Spills	Moderate hazard. <ul style="list-style-type: none">▸ Clear area of personnel and move upwind.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none">▸ Avoid all personal contact, including inhalation.▸ Wear protective clothing when risk of exposure occurs.
----------------------	--

Other information

- Store in original containers.
- Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	▸ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	C14-20 aliphatics (<=2% aromatics)	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	C14-20 aliphatics (<=2% aromatics)	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	C14-20 aliphatics (<=2% aromatics)	Not Available	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - Prince Edward Island Occupational Exposure Limits	C14-20 aliphatics (<=2% aromatics)	Mineral oil, excluding metal working fluids - Pure, highly and severely refined	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - British Columbia Occupational Exposure Limits	C14-20 aliphatics (<=2% aromatics)	Oil mist - mineral, severely refined	1 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	C14-20 aliphatics (<=2% aromatics)	Oil mist - mineral	5 mg/m3	10 mg/m3	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - Nova Scotia Occupational Exposure Limits	C14-20 aliphatics (<=2% aromatics)	Jet fuels	200 mg/m3	Not Available	Not Available	Measured as total hydrocarbon vapor. TLV Basis: skin irritation; CNS impairment; upper respiratory tract irritation TLV Basis/Critical Effect(s): Irritation; CNS; skin. Application restricted to conditions in which there are negligible aerosol exposures.
Canada - Alberta Occupational Exposure Limits	C14-20 aliphatics (<=2% aromatics)	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	C14-20 aliphatics (<=2% aromatics)	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	C14-20 aliphatics (<=2% aromatics)	Mineral oil (mist): Pure, highly and ultra-refined - inhalable dust	5 mg/m3	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
C14-20 aliphatics (<=2%	1,100 mg/m3	1,800 mg/m3	40,000 mg/m3

Continued...

AMC LIQUIPOL


Ingredient	TEEL-1	TEEL-2	TEEL-3
aromatics)			

Ingredient	Original IDLH	Revised IDLH
C14-20 aliphatics (<=2% aromatics)	2,500 mg/m ³	Not Available

MATERIAL DATA

NOTE N: The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen. This note applies only to certain complex oil-derived substances in Annex VI.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields. ▸ Chemical goggles.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▸ Overalls. ▸ P.V.C apron.

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Milky white viscous liquid with an aliphatic odour, mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1-1.1

Continued...

AMC LIQUIPOL

Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	5-8 (5g/L)	Decomposition temperature (°C)	>150
Melting point / freezing point (°C)	<5	Viscosity (cSt)	>20 @ 40c
Initial boiling point and boiling range (°C)	>100	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Applicable
Vapour pressure (kPa)	2.3	Gas group	Not Available
Solubility in water	Partly miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	0.804	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>High inhaled concentrations of mixed hydrocarbons may produce narcosis characterised by nausea, vomiting and lightheadedness. Inhalation of aerosols may produce severe pulmonary oedema, pneumonitis and pulmonary haemorrhage. Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p>
Ingestion	<p>Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health).</p> <p>Ingestion of petroleum hydrocarbons may produce irritation of the pharynx, oesophagus, stomach and small intestine with oedema and mucosal ulceration resulting; symptoms include a burning sensation in the mouth and throat. Large amounts may produce narcosis with nausea and vomiting, weakness or dizziness, slow and shallow respiration, swelling of the abdomen, unconsciousness and convulsions.</p>
Skin Contact	<p>Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic).</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives .</p>

Continued...

AMC LIQUIPOL

	The material may accentuate any pre-existing dermatitis condition Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.										
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). Petroleum hydrocarbons may produce pain after direct contact with the eyes. Slight, but transient disturbances of the corneal epithelium may also result.										
Chronic	Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. Repeated or prolonged exposure to mixed hydrocarbons may produce narcosis with dizziness, weakness, irritability, concentration and/or memory loss, tremor in the fingers and tongue, vertigo, olfactory disorders, constriction of visual field, paraesthesias of the extremities, weight loss and anaemia and degenerative changes in the liver and kidney. Chronic exposure by petroleum workers, to the lighter hydrocarbons, has been associated with visual disturbances, damage to the central nervous system, peripheral neuropathies (including numbness and paraesthesias), psychological and neurophysiological deficits, bone marrow toxicities (including hypoplasia possibly due to benzene) and hepatic and renal involvement.										
AMC LIQUIPOL	<table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Dermal (Rat) LD50: >5000 mg/kg^[2]</td><td>Not Available</td></tr> <tr> <td>Oral (Rat) LD50: >5000 mg/kg^[2]</td><td></td></tr> </table>	TOXICITY	IRRITATION	Dermal (Rat) LD50: >5000 mg/kg ^[2]	Not Available	Oral (Rat) LD50: >5000 mg/kg ^[2]					
TOXICITY	IRRITATION										
Dermal (Rat) LD50: >5000 mg/kg ^[2]	Not Available										
Oral (Rat) LD50: >5000 mg/kg ^[2]											
C14-20 aliphatics (<=2% aromatics)	<table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Dermal (rabbit) LD50: >2000 mg/kg^[2]</td><td>Eye : Not irritating (OECD 405) *</td></tr> <tr> <td>Inhalation(Rat) LC50: 4.6 mg/l4h^[2]</td><td>Eye: no adverse effect observed (not irritating)^[1]</td></tr> <tr> <td>Oral (Rat) LD50: 7400 mg/kg^[2]</td><td>Skin : Not irritating (OECD 404)*</td></tr> <tr> <td></td><td>Skin: adverse effect observed (irritating)^[1]</td></tr> </table>	TOXICITY	IRRITATION	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye : Not irritating (OECD 405) *	Inhalation(Rat) LC50: 4.6 mg/l4h ^[2]	Eye: no adverse effect observed (not irritating) ^[1]	Oral (Rat) LD50: 7400 mg/kg ^[2]	Skin : Not irritating (OECD 404)*		Skin: adverse effect observed (irritating) ^[1]
TOXICITY	IRRITATION										
Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye : Not irritating (OECD 405) *										
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Oral (Rat) LD50: 7400 mg/kg ^[2]	Skin : Not irritating (OECD 404)*										
	Skin: adverse effect observed (irritating) ^[1]										
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances										

C14-20 ALIPHATICS (<=2% AROMATICS)	*Exxsol D 100 SDS Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins. The major classes of hydrocarbons have been shown to be well absorbed by the gastrointestinal tract in various species.
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Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC LIQUIPOL	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
C14-20 aliphatics (<=2% aromatics)	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	72h	Algae or other aquatic plants	<0.03mg/l	1
	NOEC(ECx)	3072h	Fish	1mg/l	1
	LC50	96h	Fish	2.2mg/l	4

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity

Continued...

4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
C14-20 aliphatics (<=2% aromatics)	LOW (BCF = 159)

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. <ul style="list-style-type: none">▶ DO NOT allow wash water from cleaning or process equipment to enter drains.▶ It may be necessary to collect all wash water for treatment before disposal.▶ Recycle wherever possible or consult manufacturer for recycling options.▶ Consult State Land Waste Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
C14-20 aliphatics (<=2% aromatics)	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
C14-20 aliphatics (<=2% aromatics)	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

AMC LIQUIPOL

C14-20 aliphatics (<=2% aromatics) is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

Canada Toxicological Index Service - Workplace Hazardous Materials
Information System - WHMIS GHS

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by
the IARC Monographs - Not Classified as Carcinogenic**National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (C14-20 aliphatics (<=2% aromatics))>
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	06/17/2021
Initial Date	04/21/2004

SDS Version Summary

Version	Date of Update	Sections Updated
5.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
6.1	06/17/2021	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), First Aid measures - Advice to Doctor, Physical and chemical properties - Appearance, Toxicological information - Chronic Health, Hazards identification - Classification, Disposal considerations - Disposal, Ecological Information - Environmental, Exposure controls / personal protection - Exposure Standard, Firefighting measures - Fire Fighter (extinguishing media), Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), Firefighting measures - Fire Fighter (fire incompatibility), First Aid measures - First Aid (eye), First Aid measures - First Aid (skin), First Aid measures - First Aid (swallowed), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (other), Exposure controls / personal protection - Personal Protection (Respirator), Exposure controls / personal protection - Personal Protection (eye), Exposure controls / personal protection - Personal Protection (hands/feet), Physical and chemical properties - Physical Properties, Accidental release measures - Spills (major), Accidental release measures - Spills (minor), Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (storage requirement), Handling and storage - Storage (suitable container), Identification of the substance / mixture and of the company / undertaking - Supplier Information, Identification of the substance / mixture and of the company / undertaking - Synonyms, Toxicological information - Toxicity and Irritation (Toxicity Figure), Toxicological information - Toxicity and Irritation (Other), Name

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks

Continued...

in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC PLUG

AMC

Chemwatch: 4902-93

Version No: 14.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 06/11/2021

Print Date: 03/15/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC PLUG
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Processing aid for industrial applications.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

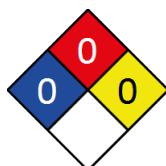
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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AMC PLUG

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: <ul style="list-style-type: none">▶ Wash out immediately with water.▶ If irritation continues, seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: <ul style="list-style-type: none">▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none">▶ Immediately give a glass of water.▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none"> ▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	Combustible. Will burn if ignited. Combustion products include: carbon monoxide (CO) carbon dioxide (CO ₂) nitrogen oxides (NO _x) other pyrolysis products typical of burning organic material.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▸ Clean up all spills immediately. ▸ Avoid contact with skin and eyes. Slippery when spilt.
Major Spills	<ul style="list-style-type: none"> ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard. Slippery when spilt.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▸ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions) ▸ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. ▸ Limit all unnecessary personal contact. ▸ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none"> ▸ Store in original containers. ▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▸ Lined metal can, lined metal pail/ can. ▸ Plastic pail.
Storage incompatibility	<ul style="list-style-type: none"> ▸ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Continued...

AMC PLUG

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC PLUG	Not Available	Not Available	Not Available


Ingredient	Original IDLH	Revised IDLH
AMC PLUG	Not Available	Not Available

MATERIAL DATA

These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> Safety glasses with side shields Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> polychloroprene.
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> Overalls.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

Continued...

- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White granular solid; insoluble in water.		
Physical state	Divided Solid	Relative density (Water = 1)	0.6-0.9
Odour	Not Available	Partition coefficient n-octanol / water	-2
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	>150
Melting point / freezing point (°C)	>150	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Applicable
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	5-8 (5 g/L)
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.</p> <p>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.</p>
Ingestion	<p>Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health).</p>
Skin Contact	<p>The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.</p>

Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.	
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Long term exposure to high dust concentrations may cause changes in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 micron penetrating and remaining in the lung. A prime symptom is breathlessness.	
AMC PLUG	TOXICITY	IRRITATION
	Dermal (Rat) LD50: >5000 mg/kg ^[2]	Not Available
	Oral (Rat) LD50: >5000 mg/kg ^[2]	
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC PLUG	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. ‣ DO NOT allow wash water from cleaning or process equipment to enter drains.
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AMC PLUG

▸ It may be necessary to collect all wash water for treatment before disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
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Transport in bulk in accordance with the IGC Code

Product name	Ship Type
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SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<i>Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

SECTION 16 Other information

Revision Date	06/11/2021
Initial Date	04/21/2004

SDS Version Summary

Version	Date of Update	Sections Updated
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Continued...

AMC PLUG

Version	Date of Update	Sections Updated
12.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
14.1	06/11/2021	Identification of the substance / mixture and of the company / undertaking - Supplier Information, Name

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

AIRC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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AMC PURE VIS™

AMC

Chemwatch: 17-8713

Version No: 11.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 12/23/2022

Print Date: 02/14/2023

L.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	AMC PURE VIS™
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drilling fluid additive.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	AMC
Address	1220 N. 2200 W. Suite# 600, Salt Lake City UT 84116 United States
Telephone	801-364-0233
Fax	801-364-0278
Website	www.amcmud.com
Email	amc@imdexlimited.com

Emergency phone number

Association / Organisation	AMC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	Chemwatch - (1) 877 715 9305	+1 867 670 2867
Other emergency telephone numbers	-	+61 3 9573 3188

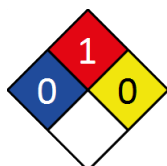
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">▶ Wash out immediately with fresh running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none">▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.▶ Observe the patient carefully.▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures**Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. <p>Combustion products include: carbon dioxide (CO₂) acrolein other pyrolysis products typical of burning organic material.</p> <p>CARE: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.</p>

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately.
Major Spills	<p>Slippery when spilt. Moderate hazard.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**Precautions for safe handling**

Safe handling	<p>▶ DO NOT allow clothing wet with material to stay in contact with skin</p> <p>Rags wet / soaked with unsaturated hydrocarbons / drying oils may auto-oxidise; generate heat and, in-time, smoulder and ignite. This is especially the case where oil-soaked materials are folded, bunched, compressed, or piled together - this allows the heat to accumulate or even accelerate the reaction</p> <p>Oily cleaning rags should be collected regularly and immersed in water, or spread to dry in safe-place away from direct sunlight or stored, immersed, in solvents in suitably closed containers.</p> <ul style="list-style-type: none"> ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	▶ Metal can or drum
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Continued...

	<ul style="list-style-type: none"> ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	Avoid contamination of water, foodstuffs, feed or seed. <ul style="list-style-type: none"> ▸ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available


Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
AMC PURE VIS™	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
AMC PURE VIS™	Not Available	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	Wear general protective gloves, eg. light weight rubber gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: <ul style="list-style-type: none"> ▸ Overalls.

Respiratory protection

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Yellow liquid; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available

Continued...

Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	7.0-9.0
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Fine mists generated from plant/ vegetable (or more rarely from animal) oils may be hazardous. Extreme heating for prolonged periods, at high temperatures, may generate breakdown products which include acrolein and acrolein-like substances.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

AMC PURE VIS™	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗

AMC PURE VIS™

Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AMC PURE VIS™	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

May be harmful to fauna if not disposed of according to Section 13 and legislative requirements. [AMC]

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
--------------	-------

Continued...

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
--------------	-----------

SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	<p>Yes = All CAS declared ingredients are on the inventory</p> <p>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</p>

SECTION 16 Other information

Revision Date	12/23/2022
Initial Date	10/09/2008

SDS Version Summary

Version	Date of Update	Sections Updated
10.1	11/01/2019	One-off system update. NOTE: This may or may not change the GHS classification
11.1	12/23/2022	Classification review due to GHS Revision change.

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit,
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor

Continued...

NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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SAFETY DATA SHEET

US OSHA Hazard Communication Standard (29 CFR 1910.1200) and Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Issuing Date 27-Jun-2022

Revision Date 27-Jun-2022

Revision Number 1

1. Identification

Product identifier

Product Name OE Fuel-Efficient Synthetic Automatic Transmission Fluid

Other means of identification

Product Code(s) OTL

UN/ID no UN3082

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Transmission fluid

Restrictions on use Avoid formation of mists

Details of the supplier of the safety data sheet

Initial supplier identifier

AMSOIL INC.
Bay Adelaide Centre, East
Tower
22 Adelaide St. W
Toronto, ON, Canada M5H 4E3
T: +1 877-822-5172

Manufacturer Address

AMSOIL INC.
One AMSOIL Center
Superior, WI 54880, USA
T: +1 715-392-7101

E-mail compliance@amsoil.com

Emergency telephone number

Emergency telephone CHEMTREC: Within USA and Canada: 1-800-424-9300
Outside the USA and Canada: +1 703-741-5970
(collect calls accepted) 24/7

2. Hazard(s) identification

Classification

Reproductive toxicity	Category 2
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Label elements

Warning

Hazard statements

Suspected of damaging fertility or the unborn child.

**Precautionary Statements - Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant.

Other information

Causes mild skin irritation. Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Alkyl phosphites	-	0.1-1	-	-
Methyl-1H-benzotriazole	29385-43-1	0.1-1	-	-

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Chemical Additions

The classification as a carcinogen does not apply as it can be shown that the substance(s) contain(s) less than 3% DMSO extract as measured by IP 346.

4. First-aid measures

Description of first aid measures**General advice**

Show this safety data sheet to the doctor in attendance. Get medical attention if irritation or other symptoms occur.

Inhalation

Remove person to fresh air and keep comfortable for breathing.

Eye contact

Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin contact	Wash skin with soap and water. Take off contaminated clothing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	Prolonged contact may cause redness and irritation. May cause temporary eye irritation. May cause gastrointestinal discomfort if consumed in large amounts. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness and difficulty breathing.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Containers can burst or explode when heated, due to excessive pressure build-up. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Use personal protective equipment as required. See section 8 for more information. Ensure adequate ventilation.
For emergency responders	Use personal protection recommended in Section 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Clean contaminated surface thoroughly. After cleaning, flush away traces with water.
Reference to other sections	For additional information see: Section 8: Exposure controls/personal protection; Section 12: Ecological information; Section 13: Disposal considerations.

7. Handling and storage

Precautions for safe handling**Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Avoid contact with used product. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Do not reuse empty containers. Keep out of the reach of children. Store in accordance with local regulations. Keep away from Incompatible materials. See section 10 for more information.

8. Exposure controls/personal protection**Control parameters****Exposure Limits**

Under conditions which may generate mists, the following exposure limits are recommended: Long-term exposure limit (8-hour TWA): 5 mg/m³. Short-term exposure limit (15-minute): 10 mg/m³.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls**Engineering controls**

Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment**Eye/face protection**

If there is a risk of contact: Wear safety glasses with side shields (or goggles).

Hand protection

If there is a risk of contact: Wear suitable gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.

Skin and body protection

If there is a risk of contact: Wear suitable protective clothing.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

General hygiene considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties**Information on basic physical and chemical properties****Appearance****Physical state**

Liquid

Color

Red

Odor

Mild hydrocarbon

Odor threshold

No information available

Property**pH****Values****Remarks • Method**

No data available

Melting point / freezing point		No data available
Initial boiling point and boiling range		No data available
Flash point	224 °C / 435.2 °F	Cleveland Open Cup ASTM D 92
Evaporation rate		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Vapor pressure		No data available
Vapor density		No data available
Relative density	0.8468	No data available
Water solubility		No data available
Solubility(ies)		No data available
Partition coefficient		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity	29.7 cSt at 40 °C 5.9 cSt at 100 °C	ASTM D445
Dynamic viscosity		No data available
Other information		
Explosive properties	No information available.	
Oxidizing properties	No information available.	
Softening point	No information available	
Pour Point	-48°C [ASTM D 97]	
Fire Point	244°C (COC) [ASTM D 92]	
Molecular weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. Stability and reactivity

Reactivity	None under normal use conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available. Causes mild skin irritation.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Prolonged contact may cause redness and irritation. May cause temporary eye irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness and difficulty breathing.

Acute toxicity**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (dermal) 28,600.00 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methyl-1H-benzotriazole	= 720 mg/kg (Rat)	> 4000 mg/kg (Rabbit)	> 1.73 mg/L (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes mild skin irritation.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity The supplier declares that it can be shown that the substance(s) contain less than 3% DMSO extract as measured by IP 346.

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard Due to the viscosity, this product does not present an aspiration hazard.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Persistence and degradability No information available.

Bioaccumulation**Component Information**

Chemical name	Partition coefficient
Methyl-1H-benzotriazole 29385-43-1	1.083

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations, Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. Transport information

DOT

UN/ID no	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es)	9
Packing group	III
Special Provisions	8, 146, 173, 335, IB3, T4, TP1, TP29
DOT Marine Pollutant	I
Marine pollutant	Alkyl phosphites, Methyl-1H-benzotriazole
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Alkyl phosphites, Methyl-1H-benzotriazole), 9, III, Marine pollutant
Emergency Response Guide Number	171

TDG

UN/ID no	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es)	9
Packing group	III
Special Provisions	16, 99
Marine pollutant	Alkyl phosphites, Methyl-1H-benzotriazole.
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Alkyl phosphites, Methyl-1H-benzotriazole), 9, III

IATA

UN number or ID number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Transport hazard class(es)	9
Packing group	III
ERG Code	9L
Special Provisions	A97, A158, A197
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Alkyl phosphites, Methyl-1H-benzotriazole), 9, III

IMDG

UN number or ID number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es)	9
Packing group	III
EmS-No	F-A, S-F
Special Provisions	274, 335, 969
Marine pollutant	P
Marine pollutant	Alkyl phosphites, Methyl-1H-benzotriazole
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Alkyl phosphites, Methyl-1H-benzotriazole), 9, III, Marine pollutant

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

Contact supplier for inventory compliance status

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Ethylbenzene - 100-41-4	Carcinogen
Naphthalene - 91-20-3	Carcinogen
Benzene - 71-43-2	Carcinogen Developmental Male Reproductive
Sulfur dioxide - 7446-09-5	Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Hydrogenated base oil 64742-55-8	-	X	-
Hydrogenated base oil 64742-56-9	-	X	-
Xylene 1330-20-7	X	X	X

Ethylbenzene 100-41-4	X	X	X
Naphthalene 91-20-3	X	X	X
Benzene 71-43-2	X	X	X
Sulfur dioxide 7446-09-5	X	X	X
2,6-Di-tert-butyl-p-cresol 128-37-0	X	X	X

U.S. EPA Label Information**EPA Pesticide Registration Number** Not applicable**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Issuing Date 27-Jun-2022**Revision Date** 27-Jun-2022**Revision Note** Initial Release.**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

US OSHA Hazard Communication Standard (29 CFR 1910.1200) and Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Issuing Date 01-Dec-2022

Revision Date 01-Dec-2022

Revision Number 1

1. Identification

Product identifier

Product Name AMSOIL XL SAE 0W-20, 5W-20, 5W-30, 10W-30, 10W-40 100% Synthetic Motor Oil

Other means of identification

Product Code(s) XLZ, XLM, XLF, XLT, XLO

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Engine oil

Restrictions on use Avoid formation of mists

Details of the supplier of the safety data sheet

Initial supplier identifier

AMSOIL INC.
Bay Adelaide Centre, East
Tower
22 Adelaide St. W
Toronto, ON, Canada M5H 4E3
T: +1 877-822-5172

Manufacturer Address

AMSOIL INC.
One AMSOIL Center
Superior, WI 54880, USA
T: +1 715-392-7101

E-mail compliance@amsoil.com

Emergency telephone number

Emergency telephone CHEMTREC: Within USA and Canada: 1-800-424-9300
Outside the USA and Canada: +1 703-741-5970
(collect calls accepted) 24/7

2. Hazard(s) identification

Classification

This product is not considered hazardous by either the US 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) or the Canadian Workplace Hazardous Material Information System (WHMIS 2015)

Label elements

Hazard statements

Not classified.

Other information

No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Based on tests performed on the final product, the product is classified as non-hazardous.

Chemical Additions

The classification as a carcinogen does not apply as it can be shown that the substance(s) contain(s) less than 3% DMSO extract as measured by IP 346.

4. First-aid measures

Description of first aid measures

General advice	Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove person to fresh air and keep comfortable for breathing.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water. Take off contaminated clothing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	May cause temporary eye irritation. May cause gastrointestinal discomfort if consumed in large amounts. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness and difficulty breathing. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization in susceptible persons.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Containers can burst or explode when heated, due to excessive pressure build-up. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Explosion data	
Sensitivity to mechanical impact	None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. See section 8 for more information. Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

Reference to other sections For additional information see: Section 8: Exposure controls/personal protection; Section 12: Ecological information; Section 13: Disposal considerations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with used product. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Do not reuse empty containers. Keep out of the reach of children. Store away from incompatible materials. See section 10 for more information. Store in accordance with local regulations.

8. Exposure controls/personal protection

Control parameters

Exposure Limits Under conditions which may generate mists, the following exposure limits are recommended: Long-term exposure limit (8-hour TWA): 5 mg/m³. Short-term exposure limit (15-minute): 10 mg/m³.

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection If there is a risk of contact: Wear safety glasses with side shields (or goggles).

Hand protection	If there is a risk of contact: Wear suitable gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.
Skin and body protection	If there is a risk of contact: Wear suitable protective clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Environmental exposure controls	Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	
Physical state	Liquid
Color	Amber
Odor	Mild hydrocarbon
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No data available
Melting point / freezing point		No data available
Initial boiling point and boiling range		No data available
Flash point	210 - 238 °C / 410 - 460.4 °F	Cleveland Open Cup ASTM D 92
Evaporation rate		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Vapor pressure		No data available
Vapor density		No data available
Relative density	0.8468 - 0.8545	No data available
Water solubility		No data available
Solubility(ies)		No data available
Partition coefficient		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity	45.8 - 103.4 cSt at 40 °C 8.7 - 15.7 cSt at 100 °C	ASTM D445
Dynamic viscosity		No data available

Other information

Explosive properties	No information available.
Oxidizing properties	No information available.
Softening point	No information available
Pour Point	-48(-44) °C [ASTM D 97]
Fire Point	230 - 260 °C (COC) [ASTM D 92]
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	None under normal use conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

11. Toxicological information

Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	May cause temporary eye irritation. May cause gastrointestinal discomfort if consumed in large amounts. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness and difficulty breathing. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization in susceptible persons.
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Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

Component Information

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	The supplier declares that it can be shown that the substance(s) contain less than 3% DMSO extract as measured by IP 346.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.

Aspiration hazard Due to the viscosity, this product does not present an aspiration hazard.

12. Ecological information

Ecotoxicity Not considered to be harmful to aquatic life. Large or frequent spills may have hazardous effects on the environment.

Persistence and degradability No information available.

Bioaccumulation

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations, Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

Contact supplier for inventory compliance status

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any

chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3	X	-	X
Fumaric acid 110-17-8	X	X	X
1,2-Diaminoethane 107-15-3	X	X	X
Hydrogenated base oil 64742-56-9	-	X	-
Diphenylamine 122-39-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AELG(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal

Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 01-Dec-2022
Revision Date 01-Dec-2022
Revision Note Initial Release.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

AQUASORB

SECTION 1. IDENTIFICATION

Product Identifier	AQUASORB
Other Means of Identification	Super absorbent polyacrylamide.
Product Family	Lost Circulation Material / Absorbent
Recommended Use	Drilling Fluid Additive.
Supplier Identifier	Bri-Chem Supply Ltd., Bay 4, 5510 - 3rd Street SE, Calgary, Alberta, T2H 1J9, Bri-Chem Supply, 403-252-5904, www.brichemsupply.com
Emergency Phone No.	ChemTrec, (800) 424-9300, 24/7

SECTION 2. HAZARD IDENTIFICATION

Classification

Not classified under any hazard class.

Label Elements

Not applicable

Other Hazards

Aqueous solutions, or powders that become wet, render surfaces extremely slippery.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Contains no hazardous ingredients.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. Allow the victim to rest in a well ventilated area.

Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Avoid direct contact. Wear chemical protective clothing if necessary.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If victim is not breathing, perform mouth-to-mouth resuscitation. Get medical attention.

Most Important Symptoms and Effects, Acute and Delayed

If in eyes:

May cause slight irritation as a "foreign object". Tearing, blinking and mild temporary pain may occur as particles are rinsed from the eye by tears.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Does not burn.

Aqueous solutions, or powders that become wet, render surfaces extremely slippery.

Special Protective Equipment and Precautions for Fire-fighters

Avoid dust formation. Take precautionary measures against static discharges. Wear clothing made of chemical protective materials to prevent skin contact.

A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Handle in accordance with good industrial hygiene and safety practice. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Avoid creating and breathing dust. Use appropriate tools to put the spilled solid in a convenient waste disposal container. After cleaning, flush away traces with water; wet product may create a slipping hazard. Collect washing for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Keep container dry. Do not breathe dust. Wear personal protective equipment to avoid direct contact with this chemical. If you feel unwell, seek medical attention and show the label when possible.

Handle in accordance with good industrial hygiene and safety practice. It is good practice to: avoid breathing product, avoid eye and skin contact and wash hands thoroughly after handling.

Conditions for Safe Storage

Store in an area that is: dry. Do not store in unlabeled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines not available.

Appropriate Engineering Controls

General ventilation is usually adequate.

Individual Protection Measures

Eye/Face Protection

Safety glasses with side shields are recommended.

Skin Protection

Skin contact should be minimized through use of suitable long-sleeved clothing (i.e. shirt and pants, coveralls). Chemically resistant gloves should be used.

Respiratory Protection

Wear a NIOSH-approved dust respirator where dust occurs.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	White powder.
Odour	Odourless
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	> 93.3 °C
Evaporation Rate	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	0.8
Solubility	Insoluble in water
Decomposition Temperature	Not available
Other Information	
Physical State	Solid
Molecular Formula	Not available
Molecular Weight	Not available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Generation of dust.

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Oxides of carbon, nitrogen.

SECTION 11. TOXICOLOGICAL INFORMATION

No LD50 or LC50 data available.

Skin Corrosion/Irritation

Not irritating. May cause mechanical irritation.

Serious Eye Damage/Irritation

Not irritating. May cause slight irritation as a "foreign object". Tearing, blinking and mild temporary pain may occur as particles are rinsed from the eye by tears.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Not harmful. Can be slightly irritating to the respiratory system.

Ingestion

Not harmful.

Carcinogenicity

Not specifically evaluated.

No information was located for: STOT (Specific Target Organ Toxicity) - Repeated Exposure, Respiratory and/or Skin Sensitization, Development of Offspring, Sexual Function and Fertility, Germ Cell Mutagenicity, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

No ecotoxicity or environmental fate data available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Recycle and reuse product, if possible. Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations.

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

WHMIS 1988 Classification

Not a WHMIS controlled product.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All intentional components of this product are either on the DSL, the confidential DSL or notifications / import restrictions are in place.

SECTION 16. OTHER INFORMATION

SDS Prepared By Bri-Chem Supply Ltd

Phone No. (403) 252-5904

Date of Preparation December 28, 2020

Additional Information This Health and Safety information is correct to the best of our knowledge and belief at the date of its publication, but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as guidance for safe handling, storage, and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

Product Identifier: AQUASORB - Ver. 1

Date of Preparation: December 28, 2020

Date of Last Revision:

Page 04 of 04

SAFETY DATA SHEET



1. IDENTIFICATION

Product Name : ATTITUDE nature + All-Purpose Cleaner - Citrus Zest

Recommended Use : Household cleaning

Restrictions on Use : None known.

Supplier Identifier :

Bio Spectra, 5605 avenue de Gaspé, Suite 900, Montréal (Québec) H2T 2A4. Phone : 514-509-7225

Emergency Phone Numbers :

CANUTEC : 613-996-6666 (24/7)

Bio Spectra (adm.) : 514-509-7225 (available from 9:00AM to 4:00PM EST, from Monday to Friday)

2. HAZARDS IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification : Not applicable.

Labels Elements : Not applicable.

Other Hazards : Not applicable.

Potential Health Effects

Exposure routes : Eye, Skin, Inhalation, Ingestion.

Eyes : May irritate eyes.

Skin : May cause slight irritation.

Inhalation: No adverse effects expected when used as directed.

Ingestion: May cause irritation to mouth, throat and stomach if swallowed in large quantities.

Aggravated Medical Condition : Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

The complete list of ingredients for the finished product is as follows :

Caprylyl glucoside, myristyl glucoside. Contains also: water, propanediol, sodium citrate, saponins, terpineol (citrus), decanal (citrus), allyl heptanoate (sweet fruit).

This product does not contain hazardous chemicals at or above a reportable level as defined by OSHA 20 CFR 1910.1200 or Canadian Products Regulations.

4. FIRST AID MEASURES

Inhalation :

If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Skin contact :

Rinse with water if contact occurs. Remove and wash contaminated clothing. Get medical attention if irritation develops and persists.

Eye contact :

Do not get in the eyes. If in eyes, rinse with water for 15 minutes.

Ingestion :

Rinse mouth with water. Do not induce vomiting. If swallowed, call a Poison Centre or doctor immediately. Contains biodegradable surfactants.

Most Important Symptoms and Effects, Acute and Delayed :

None under normal use conditions.

Immediate Medical Attention and Special Treatment :

Not applicable.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media :

Carbone dioxide (CO₂), water spray and dry chemical powder can be used to extinguish small fires .

Unsuitable Extinguishing Media :

None known.

Specific Hazards Arising from the Product :

Not applicable.

Special Protective Equipment and Precautions for Fire-fighters :

Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures :

When handling product : No special precautions required.

For you own safety, use personal protective equipment as required.

Methods and Materials for Containment and Cleaning Up :

Small quantities can be flushed to sanitary sewers, if permitted by local regulations. Dispose of in accordance with the regulations of the competent authority, in landfills or sanitary installations.

7. HANDLING AND STORAGE

Precautions for Safe Handling :

Do not eat, drink or smoke in the work area. Wash hands after handling. Avoid contact with hands and eyes. Keep away from sources of excessive heat.

Conditions for Safe Storage :

Keep container closed when not in use. Keep in a dry, cool and well ventilated place, away from excess heat.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS :

Occupational Exposure Limits :

Chemical Name	ROHS		ACGIH TLV	
	TWAEV	STEV	TWA	STEL
Not applicable.	NA	NA	NA	NA

ROHS : Regulation respecting occupational health and safety

TWAEV : Time-weighted average exposure value

STEV : Short-term exposure value

ACGIH : American Conference of Governmental Industrial Hygienists

TLV : Threshold limit value

TWA : Time-weighted average

STEL : Short-term exposure limit

Biological exposure indice :

Biological Parameter	Biological exposure indice (BEI)	Sample
Not applicable.	NA	NA

Reference : Guide de surveillance biologique de l'exposition : stratégie de prélèvement et interprétation des résultats. 7e éd., Montréal : IRSST (2012).

Appropriate Engineering Controls :

Not applicable.

Individual Protection Measures :

Eye/Face Protection : No special requirements.

Skin Protection : No special requirements.

Respiratory Protection : No special requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Clear yellowish liquid

Odour : Characteristic

Odour Threshold : Not available

pH : 10.0 - 10.9

Melting Point / Freezing Point : Not available

Initial Boiling Point : Not available

Flash Point : Not available

Evaporation Rate (ether = 1) : Not available

Flammability (solid, gas) : Not available

Lower Explosive Limit : Not available

Upper Explosive Limit : Not available

Vapour Pressure : Not available

Vapour Density : Not available

Relative Density : Not available

Solubility in water : Soluble

Partition Coefficient, n-Octanol/Water : Not available

Auto-ignition Temperature : Not available

Decomposition Temperature : Not available

Dynamic Viscosity : 0 - 50

10. STABILITY AND REACTIVITY

Reactivity : Not reactive.

Chemical Stability : Normally stable under normal conditions of storage and use.

Possibility of Hazardous Reactions : None expected under normal conditions of storage and use.

Conditions to Avoid : None known.

Incompatible Materials : None known.

Hazardous Decomposition Products : None known.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure : Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity :

Oral Toxicity (rat, mg/kg) :		Dermal Toxicity (rabbit, mg/kg) :		Inhalation Toxicity (rat, ppm) :
LD50 calculated: > 5 000		LD50 calculated: > 5 000		LC50 calculated: ND
Skin / Eye Irritation : Irritation to eyes may occur.		Germ Cell Mutagenicity : No known effect.		
Respiratory and/or Skin Sensitization : No known effect.		Target Organ Effects : No known effect.		
Carcinogenicity : No known effect.		Reproductive Toxicity : No known effect.		

12. ECOLOGICAL INFORMATION

Aquatic Ecotoxicology : LC50 > 100 mg product / L	Method : ingredient based calculation
Terrestrial Ecotoxicology : LC50 > 100 mg product / L	Method : ingredient based calculation
Persistence and Degradability : Readily and rapidly degradable. All organic substances contained in the product achieve >60% BOD/COD or CO2 liberation, or >70% reduction in tests for ease of degradability. Threshold values for "readily degradable" are reached (e.g. OECD method 301).	
Bioaccumulative potential : ND	Mobility : ND
Other adverse effects : ND	

13. DISPOSAL CONSIDERATIONS

Disposal Methods :

Landfill or flush small quantities to sanitary sewers, if permitted by local regulations. Rinse and recycle bottle or tube, if recommended by local regulation.

14. TRANSPORT INFORMATION

DOT	NOT REGULATED
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
TDG	Not regulated
MEX	Not regulated
ICAO	Not regulated
IATA	Not regulated
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
IMDG/IMO	Not regulated
Hazard Class	N/A
RID	Not regulated
ADR	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR), and the SDS contains all the information required by the CPR.

DSL Inventory Status :

All of its components are currently listed on DSL, as described by Canadian Environmental Protection Act.

SARA 313 Toxic Chemicals : None	SARA 302 Extremely Hazardous Substances : None
CERCLA Hazardous Chemicals : None	California Proposition 65 : None
TSCA 12(b) Components : None	WHMIS Hazard Class : None

16. OTHER INFORMATION

The information in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or any process.

Sources Used : General chemical references found in related SDS.

Prepared by :	Phone :	Date of issue :	Review Date :
Bio Spectra	514-509-7225	05/11/2020	14/12/2020

Legend : NA – Not Applicable , ND – Not Determined, NV – Not Available

The information contained in this Material Safety Data Sheet is provided by Bio Spectra free of charge. While believed to be reliable, it is intended for use at your own risk. Bio Spectra assumes no responsibility for events resulting from, or damages incurred from, its use.



Safety and Training Sheet

For education and training program (according to WHMIS 2015-GHS compliant)

Printing date 07/04/2020

Reviewed on 07/04/2020

1 • Product and company identification

- . **Product Identifier:** 7T ALCOHOL HAND SANITIZER
- . **Other means of identification (Article number):** 2195
- . **DIN/NPN number:** 80015781
- . **Article category:** For commercial and industrial use only
- . **Recommended use:**
 - Personal care product
 - Hand sanitizer
- . **Restrictions on use:** All other uses than those indicated on the product label and technical data sheet
- . **Manufacturer:**
 - Avmor Ltd.
 - 950 Michelin
 - Laval, QC,
 - Canada
 - H7L 5C1
 - 1-800-387-8074
 - www.avmor.com
- . **Emergency telephone number:** CANUTEC 1-613-996-6666

2 • Hazard identification

- . **Additional information:**

This product is registered as a drug or a natural health product according to the Food and Drugs Act (R.S.C., 1985, c. F-27). It is not regulated under the Hazardous Products Act (R.S.C., 1985, ch. H-3). The following information is provided to our customers for their training and safety programs.
- . **Hazard statements:**
 - WARNING: For external use only. Do not ingest.
 - Avoid contact with eyes.
 - Keep out of reach of children.
 - See Section 11 for toxicological information.
 - H225 Highly flammable liquid and vapour.
 - H319 Causes serious eye irritation.
 - H336 May cause drowsiness or dizziness.

3 • Composition/Information on ingredients

- . **Chemical characterization:** Mixtures
- . **Components:**

The ingredients in this product are in compliance with Health Canada regulations. If required, they are listed on the label of the product.
- .

CAS NO.	Chemical name or Common name	%
64-17-5	Ethanol	40-70% w/w *

* Actual concentration ranges are withheld as a trade secret.

(Contd. on page 2)

Safety and Training Sheet

For education and training program (according to WHMIS 2015-GHS compliant)

Printing date 07/04/2020

Reviewed on 07/04/2020

Product Identifier: 7T ALCOHOL HAND SANITIZER

(Contd. of page 1)

4 • First aid measures

. Description of first aid measures

. **General information:** No special measures required under normal use.

. After inhalation:

Rarely cause discomfort; supply fresh air and consult physician in case of complaints.

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation. Get medical attention.

. After skin contact:

No skin irritation is expected under normal use. The product may be irritating to skin if prolonged or repeated contact occurs.

Discontinue use if irritation or redness develops. If condition persists for more than 72 hours, contact a physician.

. **After eye contact:** Rinse opened eye for several minutes under running water. If irritation persists, get medical attention.

. After ingestion:

Rinse out mouth and then drink plenty of water. Call a poison control center or a doctor immediately for treatment advice. Do not induce vomiting unless directed to do so by medical personnel.

. **Most important symptoms and effects, both acute and delayed:**

People who have skin sensitization may be susceptible to irritating effects when using the product.

5 • Firefighting measures

. Suitable extinguishing media:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

. **For safety reasons unsuitable extinguishing agents:** N/A

. **Specific hazards arising from the product:** No further relevant information available.

. **Special protective equipment and precautions for fire-fighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6 • Accidental release measures

. Methods and material for containment and cleaning up:

Surround and absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

7 • Handling and storage

. **Precautions for safe handling:** No special precautions are necessary if used correctly.

. **Conditions for safe storage, including any incompatibilities:** Store in cool, dry conditions in well sealed receptacles.

8 • Exposure controls/ Personal protection

. **Components with limit values that require monitoring at the workplace:**

64-17-5 Ethanol

EL (Canada) STEL: 1000 ppm

EV (Canada) TWA: 1,900 mg/m³, 1,000 ppm

. Exposure controls:

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

(Contd. on page 3)

Safety and Training Sheet

For education and training program (according to WHMIS 2015-GHS compliant)

Printing date 07/04/2020

Reviewed on 07/04/2020

Product Identifier: 7T ALCOHOL HAND SANITIZER

(Contd. of page 2)

. General protective and hygienic measures:

Avoid contact with the eyes.

Immediately remove all soiled and contaminated clothing.

Do not carry product impregnated cleaning cloths in trouser pockets.

Follow proper hygiene procedures. There are no special requirements for respiratory, eye and skin protection during normal use of this product.

When cleaning large spills, wear eye and skin protection. Launder clothing before reuse.

9 • Physical and chemical properties

. Appearance:

Form: Clear gel

Colour: Colorless

. **Odour:** Ethanol

. **pH:** 4.8 – 7.0 (25°C)

. **Boiling point/Boiling range:** N/A

. **Flash point:** N/A

. **Flammability (solid, gaseous):** Not applicable

. **Relative density:** 0.875 – 0.895 (25 °C)

. **Solubility in / Miscibility with** Soluble dans l'eau

10 • Stability and reactivity

. Reactivity:

Not determined.

No further relevant information available.

. **Chemical stability:** The product is stable.

. **Possibility of hazardous reactions:** Flammable.

. **Conditions to avoid:** No further relevant information available.

11 • Toxicological information

. Numerical measures of acute toxicity:

Components	Type	Value (Species)
Mean of exposure		
64-17-5 Ethanol		
Oral LD50		7,060 mg/kg (Rat)
Inhalative LC50 (4 h)		20,000 mg/L (Rat)

. Symptomes related to the physical, chemical and toxicological characteristics

. By inhalation:

Vapours may cause irritation to the airways. Inhalation of larger amounts may induce discomfort, nausea, dizziness, headache, narcosis, and unconsciousness.

. **If on the skin:** May cause irritation by prolonged contact with skin.

. If on the eye:

Irritating effect.

May cause irritation with redness.

. **After ingestion:** May cause irritation of the gastrointestinal tract, nausea, vomiting and headache.

. **Sensitization:** No sensitizing effects known.

(Contd. on page 4)

Safety and Training Sheet

For education and training program (according to WHMIS 2015-GHS compliant)

Printing date 07/04/2020

Reviewed on 07/04/2020

Product Identifier: 7T ALCOHOL HAND SANITIZER

(Contd. of page 3)

- Delayed and immediate effects, and chronic effects from short-term and long-term exposure:**
Prolonged or frequent contact can cause eczema and inflammation of the skins as a results of degreasing.

12 • Ecological information

- Toxicity** No data available.
- Ecotoxicity:** No relevant information available.

13 • Disposal considerations

- Waste treatment methods recommendation:**
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with local authority requirements.
Dispose in accordance with all applicable federal, state, provincial and local laws and regulations. Contact your local, state, provincial or Federal environmental agency for specific rules.
- Uncleaned packagings recommendation:** Dispose of packaging according to regulations on the disposal of packagings.
- Recommended cleansing agent:** Water

14 • Transport information

Please refer to the Bill of Lading/Receiving documents for up to date shipping information.

- UN-Number**
- DOT/TDG, IMDG, IATA** UN1170
- UN proper shipping name**
- DOT/TDG** RQ Ethanol
- IMDG** ETHANOL (ETHYL ALCOHOL)
- IATA** ETHANOL
- Transport hazard class(es)**
- DOT, IMDG, IATA**
- Class** 3 Flammable liquids
- Packing group**
- DOT/TDG, IMDG, IATA** II
- Limited quantities (LQ)** 1L

15 • Regulatory information

- Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.
- Canadian Ingredient Disclosure list (limit 0.1%)**
64-17-5 Ethanol
- Canadian Ingredient Disclosure list (limit 1%)**
None of the ingredients is listed.

16 • Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Actual conditions of use and handling are beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

- Contact:** For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

(Contd. on page 5)

Safety and Training Sheet

For education and training program (according to WHMIS 2015-GHS compliant)

Printing date 07/04/2020

Reviewed on 07/04/2020

Product Identifier: 7T ALCOHOL HAND SANITIZER

(Contd. of page 4)

. Department issuing document:

Prepared by :

Regulatory Affairs Department

. Date of the latest revision of the safety data sheet 07/04/2020 / -

AF

SAFETY DATA SHEET

1. Identification

Product identifier Propane

Other means of identification

SDS number WC002

Recommended use Soldering and brazing.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Worthington Cylinder Corporation

Address 300 E. Breed St.
Chilton, WI 53014
United States

E-mail SDSRequest@worthingtonindustries.com

Telephone 1-800-359-9678

Emergency telephone CHEMTREC 1-800-424-9300 (USA)
1-703-527-3887 International
(CCN 628056)

2. Hazard identification

Physical hazards

Flammable gases	Category 1
Gases under pressure	Liquefied gas
Simple asphyxiants	Category 1

Health hazards Health hazards not otherwise classified Category 1

Label elements



Signal word Danger

Hazard statement Extremely flammable gas. Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation. Contact with liquefied gas may cause frostbite.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Use only with adequate ventilation.

Response Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage Protect from sunlight. Store in a well-ventilated place.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Propane		74-98-6	87.5 - 100
Propylene		115-07-1	0 - 10
Ethane		74-84-0	0 - 7
Butane		106-97-8	0 - 2.5

Additives

Chemical name	Common name and synonyms	CAS number	%
Ethyl mercaptan		75-08-1	< 0.005

Composition comments Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory tract irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.
Skin contact	Not likely, due to the form of the product. If frostbite occurs, immerse affected area in warm water (not exceeding 105°F/41°C). Keep immersed for 20 to 40 minutes. Get medical attention immediately.
Eye contact	Not likely, due to the form of the product. If frostbite occurs, immediately flush eyes with plenty of warm water (not exceeding 105°F/41°C) for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention promptly if symptoms persist or occur after washing.
Ingestion	This material is a gas under normal atmospheric conditions and ingestion is unlikely.
Most important symptoms/effects, acute and delayed	Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.
Indication of immediate medical attention and special treatment needed	Exposure may aggravate pre-existing respiratory disorders. Provide general supportive measures and treat symptomatically.
General information	First aid personnel must be aware of own risk during rescue. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical powder. Carbon dioxide (CO ₂). Water fog. Foam.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Extremely flammable gas. May form explosive mixtures with air. Gas may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Do not extinguish fires unless gas flow can be stopped safely; explosive re-ignition may occur. Promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk or without suitable training. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. Stop flow of material. Use water to keep fire exposed containers cool and to protect personnel effecting shutoff. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Extremely flammable gas. Contents under pressure. Pressurised container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Evacuate the area promptly. No action shall be taken involving any personal risk or without suitable training. In the event of a leak evacuate all personnel until ventilation can restore oxygen concentrations to safe levels. Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment (See Section 8).
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Stop leak if you can do so without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. For waste disposal, see section 13 of the SDS.
Environmental precautions	Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. Do not breathe gas. Avoid prolonged exposure. Do not enter storage areas or confined spaces unless adequately ventilated. Use only outdoors or in a well-ventilated area. Oxygen concentration should not fall below 19.5 % at sea level (pO₂ = 135 mmHg). Mechanical ventilation or local exhaust ventilation may be required. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Do not store, incinerate, or heat this material above 120 degrees Fahrenheit. Keep away from heat, sparks and open flame. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Protect cylinders from damage. Stored containers should be periodically checked for general condition and leakage. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm
Propylene (CAS 115-07-1)	TWA	500 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Butane (CAS 106-97-8)	TWA	1000 ppm
Propane (CAS 74-98-6)	TWA	1000 ppm
Propylene (CAS 115-07-1)	TWA	860 mg/m ³ 500 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm
Propylene (CAS 115-07-1)	TWA	500 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm
Propylene (CAS 115-07-1)	TWA	500 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm
Propylene (CAS 115-07-1)	TWA	500 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value
Butane (CAS 106-97-8)	TWA	1900 mg/m ³ 800 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m ³ 1000 ppm

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value
Butane (CAS 106-97-8)	15 minute	1250 ppm

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value
Propane (CAS 74-98-6)	8 hour	1000 ppm
	15 minute	1250 ppm
	8 hour	1000 ppm
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Exposure guidelines	Follow standard monitoring procedures.	
Appropriate engineering controls	Provide adequate ventilation and minimize the risk of inhalation of gas. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Wear approved safety glasses or goggles. Face shield is recommended.	
Skin protection		
Hand protection	Wear cold insulating gloves.	
Other	Wear protective clothing appropriate for the risk of exposure.	
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Selection and use of respiratory protective equipment should be in accordance with CSA Standard Z94.4. WARNING! Air-purifying respirators do not protect workers in oxygen deficient atmospheres.	
Thermal hazards	Contact with liquefied gas might cause frostbites, in some cases with tissue damage. Wear appropriate thermal protective clothing, when necessary.	
General hygiene considerations	Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practices.	

9. Physical and chemical properties

Appearance

Physical state	Gas.
Form	Compressed liquefied gas.
Colour	Colourless.
Odour	Rotten egg.
Odour threshold	Not determined.
pH	Not applicable.
Melting point/freezing point	-188 °C (-306.4 °F)
Initial boiling point and boiling range	-42 °C (-43.6 °F) 14.7 psia
Flash point	-104.0 °C (-155.2 °F)
Evaporation rate	Not determined.
Flammability (solid, gas)	Extremely flammable gas.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	2.15 %
Explosive limit – upper (%)	9.6 %
Vapour pressure	127 psig (21°C / 70°F)
Vapour density	Not determined.
Relative density	0.504 (liquid) 1.5 (vapour) (Air=1) (15 °C (59 °F))
Solubility(ies)	
Solubility (water)	Slightly soluble in water.
Partition coefficient (n-octanol/water)	1.77
Auto-ignition temperature	432 °C (809.6 °F)

Decomposition temperature	Not determined.
Viscosity	Not applicable.
Other information	
Density	Not determined.
Explosive properties	Not explosive.
Kinematic viscosity	Not determined.
Molecular weight	45 g/mol
Oxidising properties	Not oxidising.
Particle size	Not applicable.
Percent volatile	100 %

10. Stability and reactivity

Reactivity	Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Polymerization will not occur. May form explosive mixture with air. This product may react with oxidizing agents.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidising agents. Halogens. Nitrates.
Hazardous decomposition products	Thermal decomposition of this product can generate carbon monoxide and carbon dioxide. Hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	High concentrations: Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of co-ordination. Continued inhalation may result in unconsciousness.
Skin contact	Contact with liquefied gas may cause frostbite.
Eye contact	Contact with liquefied gas may cause frostbite.
Ingestion	This material is a gas under normal atmospheric conditions and ingestion is unlikely.
Symptoms related to the physical, chemical and toxicological characteristics	Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
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Components	Species	Test Results
Propane (CAS 74-98-6)		
<u>Acute</u>		
Inhalation		
Gas		
LC50	Rat	> 80000 ppm, 15 Minutes
Propylene (CAS 115-07-1)		
<u>Acute</u>		
Inhalation		
Gas		
LC50	Rat	> 65000 ppm, 4 Hours
Skin corrosion/irritation	Not classified.	
Serious eye damage/eye irritation	Not classified.	
Respiratory or skin sensitisation		

Respiratory sensitisation	Not a respiratory sensitiser.
Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not relevant, due to the form of the product.
Chronic effects	Exposure over a long period of time may cause central nervous system effects.

12. Ecological information

Ecotoxicity	The product is not expected to be hazardous to the environment.
Persistence and degradability	Not relevant, due to the form of the product.
Bioaccumulative potential	Not relevant, due to the form of the product.
Mobility in soil	Not relevant, due to the form of the product.
Other adverse effects	The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions	Use the container until empty. Do not dispose of any non-empty container. Empty containers have residual vapor that is flammable and explosive. Cylinders should be emptied and returned to a hazardous waste collection point. Do not puncture or incinerate even when empty. Dispose in accordance with all applicable regulations.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose in accordance with all applicable regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

UN number	UN1075
UN proper shipping name	PETROLEUM GASES, LIQUEFIED
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	-
Environmental hazards	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1075
UN proper shipping name	Petroleum gases, liquefied
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	-
Environmental hazards	No
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1075
UN proper shipping name	PETROLEUM GASES, LIQUEFIED
Transport hazard class(es)	
Class	2.1

Subsidiary risk	-
Packing group	-
Environmental hazards	
Marine pollutant	No
EmS	E-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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Revision date	21-March-2021

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Disclaimer

All information in this Safety Data Sheet is believed to be accurate and reliable. However, no guarantee or warranty of any kind is made with regard to the accuracy of information or the suitability of the recommendations contained herein. It is the user's responsibility to assess the safety and toxicity of this product under their own conditions of use and to comply with all applicable laws and regulations.

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SECTION 1. IDENTIFICATION

Product name : 3010® ULTRA
Other means of identification : No data available
SDS-Identcode : 379G

Manufacturer or supplier's details

Company name of supplier : Bestolife Corporation
Address : 2126 Vanco Drive
Irving TX 75061,
Telephone : 855-243-9164/972-865-8961
Telefax : 214-631-3047
E-mail address : www.bestolife.com

Recommended use of the chemical and restrictions on use

Recommended use : Industrial use
Thread Compound (Pipe Dope) and Jacking grease for use in
Offshore industries
Mining, (without offshore industries)
Restrictions on use : Do not use on oxygen lines or in oxygen enriched atmospheres.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Graphite	7782-42-5	$\geq 30 - < 60$ *
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	$\geq 30 - < 60$ *
Talc	14807-96-6	$\geq 10 - < 30$ *
Quartz	14808-60-7	$\geq 1 - < 5$ *
Boric acid	10043-35-3	$\geq 0.1 - < 1$ *

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : If inhaled, remove to fresh air.

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In case of skin contact	:	Get medical attention if symptoms occur. Wash with water and soap as a precaution.
In case of eye contact	:	Get medical attention if symptoms occur. Flush eyes with water as a precaution.
If swallowed	:	Get medical attention if irritation develops and persists. If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	None known.
Protection of first-aiders	:	No special precautions are necessary for first aid responders.
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Metal oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Sweep up or vacuum up spillage and collect in suitable container for disposal. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

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Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Advice on safe handling : For outdoor use only
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Graphite	7782-42-5	TWA (Respirable)	2 mg/m ³	CA BC OEL
		TWAEV (respirable dust)	2 mg/m ³	CA QC OEL
		TWA (Respirable)	2 mg/m ³	CA AB OEL
		TWA (Respirable particulate matter)	2 mg/m ³	ACGIH
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	TWA (Mist)	5 mg/m ³	CA AB OEL
		STEL (Mist)	10 mg/m ³	CA AB OEL
		TWAEV (Mist)	5 mg/m ³	CA QC OEL
		STEV (Mist)	10 mg/m ³	CA QC OEL
		TWA (Mist)	1 mg/m ³	CA BC OEL
		TWA (Inhalable particulate matter)	5 mg/m ³	ACGIH
Talc	14807-96-6	TWAEV (respirable dust)	3 mg/m ³	CA QC OEL
		TWA (Respirable particulates)	2 mg/m ³	CA AB OEL

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		TWA (Respirable)	2 mg/m ³	CA BC OEL
		TWA	2 fibres per cubic centimeter	CA ON OEL
		TWA (Respirable fraction)	2 mg/m ³	CA ON OEL
		TWA (Respirable particulate matter)	2 mg/m ³	ACGIH
Quartz	14808-60-7	TWA (Respirable particulates)	0.025 mg/m ³	CA AB OEL
		TWA (Respirable fraction)	0.1 mg/m ³	CA ON OEL
		TWAEV (respirable dust)	0.1 mg/m ³	CA QC OEL
		TWA (Respirable particulates)	0.025 mg/m ³ (Silica)	CA AB OEL
		TWA (Respirable particulate matter)	0.025 mg/m ³ (Silica)	ACGIH
Boric acid	10043-35-3	TWA (Inhalable)	2 mg/m ³ (Borate)	CA BC OEL
		STEL (Inhalable)	6 mg/m ³ (Borate)	CA BC OEL
		TWA (Inhalable particulate matter)	2 mg/m ³ (Borate)	ACGIH
		STEL (Inhalable particulate matter)	6 mg/m ³ (Borate)	ACGIH

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

II

Quartz

Engineering measures

: Minimize workplace exposure concentrations. Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m³ - total dust, 5 mg/m³ - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m³ - respirable particles, 10 mg/m³ -

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inhalable particles.

Personal protective equipment

Respiratory protection	:	If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
	:	Combined particulates and organic vapor type
Filter type	:	
Hand protection	:	
Remarks	:	Wash hands before breaks and at the end of workday.
Eye protection	:	Wear the following personal protective equipment: Safety glasses
Skin and body protection	:	Skin should be washed after contact.
Hygiene measures	:	If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Viscous semi-solid
Color	:	black
Odor	:	Petroleum
Odor Threshold	:	No data available
pH	:	Not applicable (not an aqueous solution)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	208 °C Method: ASTM D 2887 Distillates (petroleum), hydrotreated light naphthenic
Flash point	:	> 150 °C Method: Cleveland open cup Distillates (petroleum), hydrotreated light naphthenic
Evaporation rate	:	< 1
Flammability (solid, gas)	:	Not classified as a flammability hazard
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density	:	Not applicable

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	Relative density	:	1.3
	Density	:	No data available
	Solubility(ies)		
	Water solubility	:	negligible
	Partition coefficient: n-octanol/water	:	Not applicable
	Autoignition temperature	:	407 °C Method: ASTM E 659
	Decomposition temperature	:	No data available
	Viscosity		
	Viscosity, dynamic	:	No data available
	Viscosity, kinematic	:	18.17 cSt (40 °C) Distillates (petroleum), hydrotreated light naphthenic 1.817 mm²/s (40 °C) Distillates (petroleum), hydrotreated light naphthenic
	Flow time	:	No data available
	Explosive properties	:	Not explosive
	Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
	Molecular weight	:	No data available
	Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin contact
Ingestion
Eye contact

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Acute toxicity

Not classified based on available information.

Components:**Graphite:**

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 423 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	: LC50 (Rat): > 2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403

Distillates (petroleum), hydrotreated light naphthenic:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	: LC50 (Rat): > 5.53 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Talc:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Remarks: Based on data from similar materials
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Quartz:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
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Boric acid:

Acute oral toxicity	: LD50 (Rat): 3,450 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 2.03 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

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Skin corrosion/irritation

Not classified based on available information.

Components:**Graphite:**

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation

Distillates (petroleum), hydrotreated light naphthenic:

Species	: Rabbit
Result	: No skin irritation

Talc:

Species	: Rabbit
Result	: No skin irritation

Boric acid:

Species	: Rabbit
Result	: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:**Graphite:**

Species	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405

Distillates (petroleum), hydrotreated light naphthenic:

Species	: Rabbit
Result	: No eye irritation

Talc:

Species	: Rabbit
Result	: No eye irritation

Boric acid:

Species	: Rabbit
Result	: No eye irritation

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

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Respiratory sensitization

Not classified based on available information.

Components:**Graphite:**

Test Type	: Local lymph node assay (LLNA)
Routes of exposure	: Skin contact
Species	: Mouse
Result	: negative

Distillates (petroleum), hydrotreated light naphthenic:

Test Type	: Buehler Test
Routes of exposure	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

Talc:

Routes of exposure	: Skin contact
Species	: Humans
Result	: negative

Boric acid:

Test Type	: Buehler Test
Routes of exposure	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

Germ cell mutagenicity

Not classified based on available information.

Components:**Graphite:**

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
	Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
	Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative

Distillates (petroleum), hydrotreated light naphthenic:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 476 Result: negative
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Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
 Species: Mouse
 Application Route: Intraperitoneal injection
 Method: OECD Test Guideline 474
 Result: negative

Talc:

Genotoxicity in vitro : Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
 Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
 Species: Rat
 Application Route: Ingestion
 Result: negative

Boric acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
 Result: negative

Test Type: In vitro mammalian cell gene mutation test
 Result: equivocal

Test Type: Chromosome aberration test in vitro
 Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
 Species: Mouse
 Application Route: Ingestion
 Result: negative

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment : Petroleum distillates have been classified as not carcinogenic based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L).

Components:**Distillates (petroleum), hydrotreated light naphthenic:**

Species : Mouse
 Application Route : Skin contact
 Exposure time : 78 weeks
 Result : negative

Talc:

Species : Mouse

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Application Route	: inhalation (dust/mist/fume)
Exposure time	: 2 Years
Result	: negative

Quartz:

Species	: Humans
Application Route	: inhalation (dust/mist/fume)
Result	: positive
Remarks	: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment	: Positive evidence from human epidemiological studies (inhalation)
------------------------------	---

Boric acid:

Species	: Mouse
Application Route	: Ingestion
Exposure time	: 103 weeks
Result	: negative

Reproductive toxicity

Not classified based on available information.

Components:**Graphite:**

Effects on fertility	: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative
Effects on fetal development	: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative

Distillates (petroleum), hydrotreated light naphthenic:

Effects on fertility	: Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative
Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat Application Route: Skin contact Result: negative

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Talc:

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative

Boric acid:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: positive

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Result: positive

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Components:**Quartz:**

Routes of exposure : inhalation (dust/mist/fume)
Target Organs : Lungs
Assessment : Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

Repeated dose toxicity**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Species : Rabbit
NOAEL : 1,000 mg/kg
Application Route : Skin contact
Exposure time : 4 Weeks
Method : OECD Test Guideline 410

Quartz:

Species : Humans
LOAEL : 0.053 mg/m³
Application Route : inhalation (dust/mist/fume)
Remarks : These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

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Boric acid:

Species	: Rat
NOAEL	: 100 mg/kg
LOAEL	: 334 mg/kg
Application Route	: Ingestion
Exposure time	: 2 y

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Graphite:**

Toxicity to fish	: LL50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EL50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
Toxicity to microorganisms	: EC50: > 1,012.5 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Distillates (petroleum), hydrotreated light naphthenic:

Toxicity to fish	: LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction
Toxicity to daphnia and other aquatic invertebrates	: EL50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction

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Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l
 Exposure time: 72 h
 Test substance: Water Accommodated Fraction

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l
 Exposure time: 21 d

Toxicity to microorganisms : NOEC (Photobacterium phosphoreum): > 2.17 mg/l
 Exposure time: 4 d

Talc:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100,000 mg/l
 Exposure time: 24 h

Quartz:**Ecotoxicology Assessment**

Acute aquatic toxicity : No toxicity at the limit of solubility.

Chronic aquatic toxicity : No toxicity at the limit of solubility.

Boric acid:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 74 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 102 mg/l
 Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 52.4 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 17.5 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 6.4 mg/l
 Exposure time: 34 d
 Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10.8 mg/l
 Exposure time: 21 d

Toxicity to microorganisms : EC10: 35.4 mg/l
 Exposure time: 3 h
 Method: OECD Test Guideline 209

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Persistence and degradability**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 2 - 8 % Exposure time: 28 d Method: OECD Test Guideline 301B
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Bioaccumulative potential**Components:****Boric acid:**

Bioaccumulation	:	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): ≤ 3.2 Method: OECD Test Guideline 305
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Partition coefficient: n-octanol/water	:	log Pow: -1.09
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Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues	:	Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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Domestic regulation**TDG**

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION**The ingredients of this product are reported in the following inventories:**

DSL	:	All components of this product are on the Canadian DSL
TSCA	:	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
AICS	:	All ingredients listed or exempt.

SECTION 16. OTHER INFORMATION**Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWA	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median

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Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 11/06/2020
Date format : mm/dd/yyyy

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

CA / Z8

SAFETY DATA SHEET



Symplicity L-S-R Delimer

Section 1. Identification

GHS product identifier : Symplicity L-S-R Delimer
Product code : 248
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Delimer	
Uses advised against	Reason
For Industrial and Institutional Use Only	-

Supplier's details : Betco Corporation
400 Van Camp Road
Bowling Green, Ohio 43402
www.betco.com
888-462-3826

Emergency telephone number (with hours of operation) : Chemtrec (800) 424-9300 24 hour

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection: Recommended: splash goggles. Wear protective clothing: Recommended: safety apron. Wash hands thoroughly after handling.

Section 2. Hazards identification

- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	CAS number
phosphoric acid	≥10 - ≤25	7664-38-2
Hydrogen chloride	≤3	7647-01-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
phosphorus oxides
halogenated compounds
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
phosphoric acid	ACGIH TLV (United States, 3/2018). TWA: 1 mg/m ³ 8 hours. STEL: 3 mg/m ³ 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 1 mg/m ³ 8 hours. STEL: 3 mg/m ³ 15 minutes. NIOSH REL (United States, 10/2016). TWA: 1 mg/m ³ 10 hours. STEL: 3 mg/m ³ 15 minutes. OSHA PEL (United States, 5/2018). TWA: 1 mg/m ³ 8 hours.
Hydrogen chloride	ACGIH TLV (United States, 3/2018). C: 2 ppm OSHA PEL 1989 (United States, 3/1989). CEIL: 5 ppm CEIL: 7 mg/m ³ NIOSH REL (United States, 10/2016). CEIL: 5 ppm CEIL: 7 mg/m ³ OSHA PEL (United States, 5/2018). CEIL: 5 ppm CEIL: 7 mg/m ³

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: splash goggles
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: safety apron
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Personal protective equipment (Pictograms)



Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Green. Clear. [Light]
- Odor** : Bland.
- Odor threshold** : Not available.
- pH** : 0.7 to 1.5
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: Not applicable. [Product does not sustain combustion.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.1274
- Solubility** : Easily soluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
Flow time (ISO 2431)	: Not available.

Section 10. Stability and reactivity

Reactivity	: Reacts violently with strong bases. May be corrosive to metals. Attack many metals product flammable hydrogen gas which can form explosive mixtures with air. This product should be stored away from oxidizing materials and strong bases
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Attacks many metals producing flammable hydrogen gas which can form an explosive mixture in air.
Conditions to avoid	: No specific data.
Incompatible materials	: Highly reactive or incompatible with the following materials: Alkali, oxidizers and some metals
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
phosphoric acid	LD50 Oral	Rat	1.25 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hydrogen chloride	Eyes - Mild irritant	Rabbit	-	0.5 minutes 5 milligrams	-
	Skin - Mild irritant	Human	-	24 hours 4 Percent	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Hydrogen chloride	-	3	-

Reproductive toxicity

Not available.

Section 11. Toxicological information

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain
 watering
 redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
Ingestion : Adverse symptoms may include the following:
 stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	49682.03 mg/kg
Dermal	109300.48 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
phosphoric acid	Acute EC50 105 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 60 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
Hydrogen chloride	Acute LC50 240000 µg/l Marine water	Crustaceans - Carcinus maenas - Adult	48 hours
	Acute LC50 282 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Hydrogen chloride	0.25	-	low

Mobility in soil







Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN1760	UN1760	UN1760	UN1760	UN1760	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Phosphoric acid and Hydrochloric acid)	CORROSIVE LIQUID, N.O.S. (Phosphoric acid and Hydrochloric acid)	CORROSIVE LIQUID, N.O.S. (Phosphoric acid and Hydrochloric acid)	CORROSIVE LIQUID, N.O.S. (Phosphoric acid and Hydrochloric acid)	CORROSIVE LIQUID, N.O.S. (Phosphoric acid and Hydrochloric acid)	CORROSIVE LIQUID, N.O.S. (Phosphoric acid and Hydrochloric acid)
Transport hazard class(es)	8 	8 	8 	8 	8 	8 
Packing group	II	II	II	II	II	II
Environmental hazards	No.	No.	No.	No.	No.	No.

Additional information

DOT Classification

- : **Reportable quantity** 23809.5 lbs / 10809.5 kg [2532.9 gal / 9588 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- : **Limited quantity** Yes.
- : **Packaging instruction** Exceptions: 154. Non-bulk: 202. Bulk: 242.
- : **Quantity limitation** Passenger aircraft/rail: 1 L. Cargo aircraft: 30 L.
- : **Special provisions** B2, IB2, T11, TP2, TP27

TDG Classification

- : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).
- : **Explosive Limit and Limited Quantity Index** 1
- : **Passenger Carrying Road or Rail Index** 1
- : **Special provisions** 16

Mexico Classification

ADR/RID

- : **Special provisions** 274
- : **Hazard identification number** 80
- : **Limited quantity** 1 L
- : **Special provisions** 274
- : **Tunnel code** (E)

IMDG

- : **Emergency schedules** F-A, S-B
- : **Special provisions** 274

IATA

- : **Quantity limitation** Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0.5 L. Packaging instructions: Y840.
- : **Special provisions** A3, A803

Special precautions for user

- : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code

- : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 311: Hydrogen chloride; Phosphoric acid, solution

Clean Air Act (CAA) 112 regulated toxic substances: Hydrogen chloride

Clean Air Act Section 112 : Listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 : Not listed
Class I Substances

Clean Air Act Section 602 : Not listed
Class II Substances

DEA List I Chemicals : Not listed
(Precursor Chemicals)

DEA List II Chemicals : Listed
(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Hydrogen chloride	≤3	Yes.	500	-	5000	-

SARA 304 RQ : 496820.3 lbs / 225556.4 kg [52852.3 gal / 200067.8 L]

SARA 311/312

Classification : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

Composition/information on ingredients

Name	%	Classification
phosphoric acid	≥10 - ≤25	SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1
Hydrogen chloride	≤3	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION - Category 1A SERIOUS EYE DAMAGE - Category 1

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Hydrogen chloride	7647-01-0	≤3
Supplier notification	Hydrogen chloride	7647-01-0	≤3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: HYDROGEN CHLORIDE; HYDROCHLORIC ACID; PHOSPHORIC ACID

New York : The following components are listed: Hydrochloric acid; Phosphoric acid

New Jersey : The following components are listed: HYDROGEN CHLORIDE; HYDROCHLORIC ACID; PHOSPHORIC ACID

Pennsylvania : The following components are listed: HYDROCHLORIC ACID; PHOSPHORIC ACID

Section 15. Regulatory information

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: Not determined.
Canada	: All components are listed or exempted.
China	: Not determined.
Europe	: At least one component is not listed.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: All components are listed or exempted.
Viet Nam	: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	3
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Section 16. Other information

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
SKIN CORROSION - Category 1	On basis of test data
SERIOUS EYE DAMAGE - Category 1	On basis of test data

History

Date of printing : 11/22/2022

Date of issue/Date of revision : 11/22/2022

Date of previous issue : 11/22/2022

Version : 1.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



PB Penetrating Catalyst

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom2012

Date of issue: 9/24/2019

Revision date: 9/24/2019

Version: 1.0

SECTION 1: Identification

1.1. Identification

Product name : PB Penetrating Catalyst
Product code : 16-PB, 8-PB, 8-PBS, PB-TS, 20-PB, 26-PB, 16-PB-DS

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Penetrant

1.3. Details of the supplier of the safety data sheet

Manufacturer

The Blaster Corporation
8500 Sweet Valley Drive
Valley View, Ohio 44125 - USA
T (216) 901-5800 - F (216) 901-5801
www.blastercorp.com

1.4. Emergency telephone number

Emergency number : ChemTel 800-255-3924

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Aerosol 2
Gases under Pressure (Dissolved gas)
Asp. Tox. 1

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



GHS02

GHS04

GHS08

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : Flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways.
Precautionary statements (GHS-US) : Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. Store locked up. Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Dispose of contents/container in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%
Petroleum distillates, hydrotreated light	(CAS No) 64742-47-8	50 - 60
Solvent naphtha, petroleum, heavy aromatic	(CAS No) 64742-94-5	20 - 30
Distillates, petroleum, hydrotreated heavy naphthenic	(CAS No) 64742-52-5	20 - 30
Carbon dioxide	(CAS No) 124-38-9	1 - 4

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Direct contact with the eyes is likely to be irritating.
First-aid measures after ingestion	: IF SWALLOWED: immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	: May cause respiratory tract irritation.
Symptoms/injuries after skin contact	: May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/injuries after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Carbon dioxide, dry chemical, halons or foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable aerosol. Products of combustion may include, and are not limited to: oxides of carbon and oxides of nitrogen.
Explosion hazard	: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity	: No dangerous reaction known under conditions of normal use.

5.3. Advice for firefighters

Firefighting instructions	: DO NOT fight fire when fire reaches explosives. Evacuate area. Exercise caution when fighting any chemical fire.
Protection during firefighting	: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Use water spray to keep fire-exposed containers cool.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.
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6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
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according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Eliminate sources of ignition. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container. Provide ventilation.

6.4. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not spray on an open flame or other ignition source. Keep away from sources of ignition - No smoking. Use non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharge. Avoid contact with skin and eyes. Do not swallow. Do not breathe gas, fumes, vapour or spray. When using do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Do not pierce or burn, even after use.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep locked up and out of reach of children. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store away from direct sunlight or other heat sources. Keep in fireproof place.

Storage area : Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Petroleum distillates, hydrotreated light (64742-47-8)		
Not applicable		
Solvent naphtha, petroleum, heavy aromatic (64742-94-5)		
Not applicable		
Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)		
Not applicable		
Carbon dioxide (124-38-9)		
ACGIH	ACGIH TWA (ppm)	5000 ppm
ACGIH	ACGIH STEL (ppm)	30000 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	9000 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	5000 ppm

8.2. Exposure controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection : Wear chemically resistant protective gloves.

Eye protection : Safety glasses or goggles are recommended when using product.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

Other information : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

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according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear. Aerosol.
Colour	: Orange
Odour	: Characteristic
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 356 °F (180 °C)
Flash point	: > 141 °F (> 61 °C)
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Flammable aerosol.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.9
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

Heat of Combustion	: 45.8 kJ/g
Flame Projection	: 0 inches
Flashback	: None

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions. Flammable aerosol. Contents under pressure. Container may explode if heated. Do not puncture. Do not burn. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Sources of ignition. Heat. Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon and oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified.
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PB Penetrating Catalyst

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PB Penetrating Catalyst	
LD50 oral rat	> 2000 mg/kg (Calculated Acute Toxicity Estimate)
LD50 dermal rabbit	> 2000 mg/kg (Calculated Acute Toxicity Estimate)
LC50 inhalation rat	> 5 mg/l/4h (Calculated Acute Toxicity Estimate)
Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5.2 mg/l/4h
Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2 ml/kg
LC50 inhalation rat	> 590 mg/m ³ (Exposure time: 4 h)

Skin corrosion/irritation	: Notclassified.
Serious eye damage/irritation	: Notclassified.
Respiratory or skin sensitisation	: Notclassified.
Germ cell mutagenicity	: Notclassified.
Carcinogenicity	: Notclassified.
Reproductive toxicity	: Not classified.
Specific target organ toxicity(single exposure)	: Notclassified.
Specific target organ toxicity (repeated exposure)	: Not classified.
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: May cause respiratory tractirritation.
Symptoms/injuries afterskin contact	: May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/injuries after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking andtear production, with possible redness and swelling.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquaticenvironment.

Petroleum distillates, hydrotreated light (64742-47-8)	
LC50 fish 1	45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	2.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LC50 fish 1	19 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	0.95 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	2.34 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)	
LC50 fish 1	> 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

PB Penetrating Catalyst	
Persistence and degradability	Not established.

PB Penetrating Catalyst

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

12.3. Bioaccumulative potential

PB Penetrating Catalyst

Bioaccumulative potential	Not established.
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Petroleum distillates, hydrotreated light (64742-47-8)

BCF fish 1	61 - 159
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Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

BCF fish 1	61 - 159
------------	----------

Partition coefficient n-octanol/water	2.9 - 6.1
---------------------------------------	-----------

Carbon dioxide (124-38-9)

BCF fish 1	(no bioaccumulation)
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

DOT, IATA & IMO

UN-No. : UN1950

Proper Shipping Name : AEROSOLS, flammable, limited quantities

Class : 2.1

Hazard labels :



Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. International regulations

No additional information available

US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of

15.3. California to cause cancer, developmental and/or reproductive harm

PB Penetrating Catalyst

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Naphthalene (91-20-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	5.8 µg/day

Carbon dioxide (124-38-9)				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				

SECTION 16: Other information

Date of issue : 9/24/20198
Revision date : 9/24/2019
Other information : None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.



Safety Data Sheet

Issue Date: 05-Apr-2018

Revision Date: 12-Apr-2018

Version 1

1. IDENTIFICATION

Product Identifier

Product Name BlueDevil Transmission Stop Leak

Other means of identification

SDS # BLUEDEVIL-009

Recommended use of the chemical and restrictions on use

Recommended Use For industrial use.

Details of the supplier of the safety data sheet

Supplier Address

BlueDevil Products
854 Lowcountry Blvd. Suite 101
Mt. Pleasant, SC 29464
888-863-0426

Emergency Telephone Number

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Clear liquid

Physical state Liquid

Odor None

Classification

Flammable Liquids

Category 4

Signal Word

Warning

Hazard statements

Combustible liquid

Precautionary Statements - Prevention

Keep away from flames and hot surfaces. - No smoking
Wear protective gloves/eye protection/face protection

Precautionary Statements - Response

IN CASE OF FIRE: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Di(ethylene glycol) ethyl ether	111-90-0	90-100

4. FIRST AID MEASURES**First Aid Measures**

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.
Inhalation	Remove to fresh air. Get medical attention if symptoms develop and persist.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms develop and persist.

Most important symptoms and effects

Symptoms	Not determined.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Carbon dioxide (CO2). Dry powder.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustible liquid. Closed containers may explode due to buildup of pressure when exposed to extreme heat.

Hazardous Combustion Products Smoke, fumes or vapors, and oxides of carbon.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions	Evacuate personnel to safe areas. Use personal protective equipment as required.
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Environmental precautions

Environmental precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Wear protective gloves/protective clothing and eye/face protection. Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials Strong oxidants.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear eye/face protection. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Wear protective gloves and protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection In case of insufficient ventilation, wear suitable respiratory equipment. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	None
Appearance	Clear liquid	Odor Threshold	Not determined
Color	Clear		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting point / freezing point	Not determined	
Boiling Point / Boiling Range	198 °C / 388 °F	
Flash Point	91 °C / 196 °F	Pensky-Martens Closed Cup (PMCC)
Evaporation Rate	0.067	
Flammability (Solid, Gas)	Liquid - Not Applicable	
Flammability Limit in Air		
Upper Flammability Limit	Not determined	
Lower Flammability Limit	0.95	
Vapor Pressure	0.120	
Vapor Density	Not determined	
Relative Density	0.990	
Water Solubility	Completely soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	398 °C / 750 °F	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
<u>Other Information</u>		
Density	0.989	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

Strong oxidants.

Hazardous Decomposition Products

Carbon monoxide. Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact

Avoid contact with eyes.

Skin Contact

Avoid contact with skin.

Inhalation

May be harmful if inhaled.

Ingestion

Do not ingest.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Di(ethylene glycol) ethyl ether 111-90-0	= 10502 mg/kg (Rat)	= 9143 mg/kg (Rabbit) = 6 mL/kg (Rat) = 4200 µL/kg (Rabbit)	> 5240 mg/m ³ (Rat) 4 h

Information on physical, chemical and toxicological effects**Symptoms**

Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Carcinogenicity**

Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 10,502.00 mg/kg

ATEmix (inhalation-dust/mist) 5.25 mg/L

12. ECOLOGICAL INFORMATION**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Di(ethylene glycol) ethyl ether 111-90-0	-0.8

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note	According to 49 CFR §173.150(f)(1), this material should be reclassified as "NA1993, Combustible Liquid, N.O.S." if it is shipped in bulk.
DOT	Not regulated
IATA	Not regulated
IMDG	Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Di(ethylene glycol) ethyl ether	X	X	X	X	X	X	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/E LINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Di(ethylene glycol) ethyl ether 111-90-0	X		X

16. OTHER INFORMATION**NFPA****Health Hazards****Flammability****Instability****Special Hazards**

2

2

0

Not determined

HMIS**Health Hazards****Flammability****Physical hazards****Personal Protection**

Not determined

Not determined

Not determined

Not determined

Issue Date: 05-Apr-2018**Revision Date:** 12-Apr-2018**Revision Note:** New format**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

Issue Date 20-Dec-2015

Revision Date 28-Dec-2016

Version 1

1. IDENTIFICATION

Product identifier

Product Name BAKOR BLUESKIN ADHESIVE

Other means of identification

Product Code BK101
UN/ID no UN1133
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Adhesives and/or sealants
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

HENRY COMPANY
999 N. Sepulveda Blvd., Suite 800
El Segundo, CA 90245-2716
Web Site: www.henry.com www.ca.henry.com

Emergency telephone number

Company Phone Number 800-486-1278
Emergency Telephone CHEMTREC: 800-424-9300
CHEMTREC: 703-527-3887
CANUTEC: 613-966-6666

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Flammable liquids	Category 2

Label elements

Emergency Overview

Danger

Hazard statements

Causes skin irritation
Causes serious eye irritation
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

**Appearance** viscous**Physical state** liquid**Odor** Strong Solvent**Precautionary Statements - Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ ventilating/ lighting/ equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

Unknown acute toxicity

17.10458% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substance**

Not applicable

Mixture

Chemical Name	CAS No	Weight-%
Hexane *	110-54-3	30 - 60

Acetone *	67-64-1	10 - 30
Synthetic Polymer Blend *	Proprietary	10 - 30
Polymer Blend *	Proprietary	1 - 5
Solvent naphtha, petroleum, medium aliphatic *	64742-88-7	1 - 5
Mineral oil *	8012-95-1	1 - 5
Bentonite *	1302-78-9	1 - 5

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

4. FIRST AID MEASURES

Description of first aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.
Eye contact	Keep eye wide open while rinsing. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician. Wash contaminated clothing before reuse.
Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If symptoms persist, call a physician.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting without medical advice. Rinse mouth. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms	May cause redness and tearing of the eyes. Coughing and/ or wheezing. May cause skin irritation. Drowsiness. Dizziness.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Keep victim warm and quiet. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO₂, sand, earth, water spray or regular foam.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

Move containers from fire area if you can do it without risk.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Other Information Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up Use clean non-sparking tools to collect absorbed material. Dike far ahead of liquid spill for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials Strong acids. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hexane 110-54-3	TWA: 50 ppm S*	TWA: 500 ppm TWA: 1800 mg/m ³	IDLH: 1100 ppm TWA: 50 ppm TWA: 180 mg/m ³
Acetone 67-64-1	STEL: 500 ppm TWA: 250 ppm	TWA: 1000 ppm TWA: 2400 mg/m ³	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m ³
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	-	TWA: 500 ppm TWA: 2900 mg/m ³	-
Mineral oil 8012-95-1	TWA: 5 mg/m ³ inhalable fraction excluding metal working fluids, highly & severely refined TWA: 5 mg/m ³ inhalable fraction excluding metal working fluids	TWA: 5 mg/m ³	IDLH: 2500 mg/m ³ TWA: 5 mg/m ³ STEL: 10 mg/m ³

Bentonite 1302-78-9	TWA: 1 mg/m ³ respirable fraction	-	-
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NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Strong Solvent
Appearance	viscous	Odor threshold	No information available
Color	blue		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 56 °C / 133 °F	
Flash point	-28 °C / -18 °F	Tag Closed Cup
Evaporation rate	> 1	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	13	
Lower flammability limit:	1	
Vapor pressure	31 kPa	@ 25 °C
Vapor density	2.8	
Relative density	0.84	
Water solubility	slightly soluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	233 °C / 451 °F	
Decomposition temperature	No information available	
Kinematic viscosity	> 100 mm ² /s	@ 40 °C
Dynamic viscosity	No information available	
Explosive properties	Not an explosive	
Oxidizing properties	Not applicable	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Heat, flames and sparks. Incompatible materials.

Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause drowsiness or dizziness.
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin.
Ingestion	Based on available data, the classification criteria are not met.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hexane 110-54-3	= 25 g/kg (Rat)	= 3000 mg/kg (Rabbit)	= 48000 ppm (Rat) 4 h
Acetone 67-64-1	= 5800 mg/kg (Rat)	-	= 50100 mg/m ³ (Rat) 8 h
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Mineral oil 8012-95-1	> 24 g/kg (Rat)	-	= 2062 ppm (Rat) 4 h
Bentonite 1302-78-9	> 5000 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. Vapors may cause drowsiness and dizziness. Coughing and/ or wheezing. May cause skin irritation.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization Based on available data, the classification criteria are not met.
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346. This note applies only to certain complex oil derived substances in Annex I. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Polymer Blend	-	Group 3	-	-
Mineral oil 8012-95-1	A2	Group 1 Group 3	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Not classifiable as a human carcinogen

Group 1 - Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity

Contains a known or suspected reproductive toxin.

STOT - single exposure

Target Organs. Respiratory system. Central nervous system.

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Chronic toxicity

Avoid repeated exposure.

Target Organ Effects

Central nervous system, Eyes, Peripheral Nervous System (PNS), Respiratory system, Skin.

Neurological effects

Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

Aspiration hazard

Based on available data, the classification criteria are not met.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 13,438.00 mg/kg

ATEmix (dermal) 4,994.00 mg/kg

ATEmix (inhalation-dust/mist) 376.70 mg/l

ATEmix (inhalation-vapor) 84,964.00 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

17.10819 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

Chemical Name	Partition coefficient
Acetone 67-64-1	-0.24

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging

Do not reuse container.

US EPA Waste Number

D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Hexane 110-54-3	Toxic Ignitable
Acetone 67-64-1	Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no	UN1133
Proper shipping name	Adhesives
Hazard Class	3
Packing Group	II
Special Provisions	149, B52, IB2, T4, TP1, TP8
Description	UN1133, Adhesives, 3, II
Emergency Response Guide Number	128

TDG

UN/ID no	UN1133
Proper shipping name	Adhesives
Hazard Class	3
Packing Group	II
Description	UN1133, Adhesives, 3, II

IATA

UN/ID no	UN1133
Proper shipping name	Adhesives
Hazard Class	3
Packing Group	II
ERG Code	3L
Special Provisions	A3
Description	UN1133, Adhesives, 3, II

IMDG

UN/ID no	UN1133
Proper shipping name	Adhesives
Hazard Class	3
Packing Group	II
EmS-No	F-E, S-D
Description	UN1133, Adhesives, 3, II, (-28°C c.c.)

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical

or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Hexane - 110-54-3	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Hexane 110-54-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Acetone 67-64-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Quartz - 14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Hexane 110-54-3	X	X	X
Acetone 67-64-1	X	X	X
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	X	-	-
Mineral oil 8012-95-1	X	X	X
Benzene, 1,2,4-trimethyl- 95-63-6	X	X	X
Quartz 14808-60-7	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 2	Flammability 3	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 2*	Flammability 3	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend * = Chronic Health Hazard</i>				

Issue Date 20-Dec-2015

Revision Date 28-Dec-2016

Revision Note

No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief

at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



Full Synthetic Diesel Engine Oil SAFETY DATA SHEET

Section 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Full Synthetic Diesel Engine Oil 0W30, 0W40, 5W40, 15W40; Euro 5W40 Synthetic
COMMON NAME: Full Synthetic Diesel Engine Oil, Euro 5W40 Synthetic
CHEMICAL FORMULA: Mixture
CHEMICAL NAME: Lubricating Oil
CHEMICAL FAMILY: Hydrocarbon
SUPPLIER:
Boss Lubricants
112, 6303 30 St. SE
Calgary, AB
T2C 1R4
Emergency Phone Number(s)
Business: (800) 844-9457
Fax #: (403) 279-2272
CHEMTREC: +1 (800) 424-9300
Issue Date: January 24, 2018
Supersedes Issue: January 1, 2015

Section 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture: Not classified under GHS

Other hazards

Hazards not otherwise classified: Avoid prolonged or repeated contact with used motor oil. Used motor oil has been shown to cause skin cancer in laboratory animals.

Unknown acute toxicity (GHS-US)

Unknown Acute Toxicity (Gas): 24.987922 % of the mixture consists of ingredient(s) of unknown toxicity.

Unknown Acute Toxicity (Dust/Mist): 24.987922

Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Name	%	CAS #	GHS Classification
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	5 - 10	72623-87-1	Acute Tox. 4; H332 Acute Tox. 3; H331
Solvent-refined light paraffinic distillate	1 - 5	64741-89-5	Acute Tox. 4; H332 Acute Tox. 3; H331
Petroleum distillates, solvent-refined heavy paraffinic	1 - 5	64741-88-4	Not applicable
Solvent dewaxed light paraffinic distillate (petroleum)	1 - 5	64742-56-9	Acute Tox. 4; H332 Acute Tox. 3; H331

Section 4: FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:

Eye Contact: If material comes in contact with the eyes, immediately wash the eyes with large amounts of water for 15 minutes, occasionally lifting the lower and upper lids. Get medical attention.



Full Synthetic Diesel Engine Oil

- Skin Contact:** If the material comes in contact with the skin, wash the contaminated skin with soap and water promptly. If the material penetrates through clothing, remove the clothing and wash the skin with soap and water promptly. If irritation persists after washing, get medical attention immediately.
- Inhalation:** If person breathes in large amounts of material, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the person warm and at rest. Get medical attention as soon as possible.
- Ingestion:** If material has been swallowed, do not induce vomiting. Get medical attention immediately.

Section 5: FIRE - FIGHTING MEASURES

FLASH POINT: 224°C (435.2°F) **AUTO IGNITION TEMP:** >260°C (>500°F)

FLAMMABLE LIMITS IN AIR

LOWER

UPPER

% BY VOLUME

N/A

N/A

EXTINGUISHING MEDIA:

Use water spray to cool fire exposed surfaces and to protect personnel. Use foam, dry chemical or water spray (fog) to extinguish fire.

SPECIAL FIRE FIGHTING PROCEDURES:

When fighting fires wear full turnout gear and self-contained breathing apparatus. Water may cause splattering. Material floats on water.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Toxic fumes gases or vapors may evolve on burning.

HAZARD RATINGS

NFPA 704: Health: 1 Fire: 1 Reactivity: 0

HMIS: Health: 1 Fire: 1 Reactivity: 0

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

General Measures: No health affects expected from the clean up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this SDS.

Environmental precautions: Remove from water surface by skimming or with suitable absorbents. Do not use dispersants. Avoid runoff into storm sewers and ditches that lead to waterways. Do not flush to sewer. Avoid runoff into storm sewers and ditches that lead to waterways.

Methods and material for containment and cleaning up

Methods for cleaning up: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Dispose of according to Federal, State, Local, or Provincial regulations. Used fluid should be disposed of at a recycling center. {EMSFORM_06GHS_CLEAN}

Reference to other sections: Follow all protective equipment recommendations provided in Section 8.

Full Synthetic Diesel Engine Oil

Section 7: HANDLING AND STORAGE

HANDLING AND STORING: Store in closed container away from all ignition sources. Handling temperatures should not exceed 175°F (80°C). Wash thoroughly after handling. Do not store at temperatures exceeding 113°F (45°C). Odorous and toxic fumes may form from the decomposition of this product if stored at excessive temperatures for extended periods of time. Open containers carefully and only in well ventilated areas or use appropriate respiratory protection. Store in well ventilated area.

Section 8: EXPOSURE CONTROL - PERSONAL PROTECTION

Control parameters

Chemical Name	Occupational Exposure Limits	Value
Oil mist, mineral	OSHA PEL	5 mg/m ³
Oil mist, mineral	OSHA PEL	5 mg/m ³
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OSHA PEL	5 mg/m ³
Distillates (petroleum), solvent-dewaxed light paraffinic	OSHA PEL	5 mg/m ³
Oil mist, mineral	OSHA PEL	5 mg/m ³
Oil mist, mineral	OSHA PEL	5 mg/m ³
None.	OSHA STEL	
Oil mist, mineral	ACGIH TLV-TWA	5 mg/m ³
Oil mist, mineral	ACGIH TLV-TWA	5 mg/m ³
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	ACGIH TLV-TWA	5 mg/m ³
Distillates (petroleum), solvent-dewaxed light paraffinic	ACGIH TLV-TWA	5 mg/m ³
Oil mist, mineral	ACGIH TLV-TWA	5 mg/m ³
Oil mist, mineral	ACGIH TLV-TWA	5 mg/m ³
Oil mist, mineral	ACGIH STEL	10 mg/m ³
Oil mist, mineral	ACGIH STEL	10 mg/m ³
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	ACGIH STEL	10 mg/m ³
Distillates (petroleum), solvent-dewaxed light paraffinic	ACGIH STEL	10 mg/m ³
Oil mist, mineral	ACGIH STEL	10 mg/m ³
Oil mist, mineral	ACGIH STEL	10 mg/m ³
None.	IDLH	
None.	OSHA PEL-Skin Notation	



Full Synthetic Diesel Engine Oil

Exposure controls

Engineering Measures:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Respiratory Protection	Respiratory protection will be required when handling this product. Use respirators only if ventilation cannot be used to eliminate symptoms or reduce the exposure to below acceptable levels.
Respirator Type(s):	None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.
Eye Protection:	No special requirements under normal industrial use.
Skin Protection:	Where use can result in skin contact, practice good personal hygiene and wear impervious gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	Neoprene, Nitrile

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Amber liquid	ODOR:	Mild odor
BOILING POINT:	N/D	SPECIFIC GRAVITY (water=1):	0.8400 - 0.8700
VAPOR PRESSURE:	<0.20	VAPOR DENSITY (air=1):	N/D
SOLUBLE IN WATER:	Insoluble	pH:	N/D
EVAPORATION RATE (ether=1):	<1		

Section 10: STABILITY AND REACTIVITY

STABILITY:	Stable under moderately elevated temperatures and pressures. See handling and storage section
INCOMPATIBILITY:	
CONDITIONS TO AVOID:	See handling and storage section.
MATERIALS TO AVOID:	Acids, oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS:	Smoke, carbon monoxide, aldehydes, hydrogen sulfide and alkyl mercaptans may be released. Under combustion conditions, oxides of the following elements will be formed: Magnesium, calcium, nitrogen, sulfur, and carbon.
HAZARDOUS POLYMERIZATION:	Will not occur.

Section 11: TOXICOLOGY INFORMATION

Information on toxicological effects

Ingestion Toxicity:	Although this product has a low order of acute oral toxicity, aspiration of minute amounts into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death. Likely to be practically non-toxic by ingestion based on animal data.
Skin Contact:	This material is likely to be slightly irritating to skin based on animal data. Can cause minor skin irritation, defatting, and dermatitis.
Absorption:	Likely to be practically non-toxic based on animal data.
Inhalation Toxicity:	No hazard in normal industrial use. Likely to be practically non-toxic based on animal data.



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Eye Contact:	This material is estimated to be non-irritating eyes (Draize score <15 [rabbits]). No hazard in normal industrial use.
Sensitization:	Non-hazardous under Respiratory Sensitization category.
Mutagenicity:	No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Carcinogenicity:	Not expected to cause cancer. This product meets the IP-346 criteria of <3% PAH's and is not considered a carcinogen by the International Agency for Research on Cancer.
Reproductive and Developmental Toxicity:	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Specific target organ Toxicity-Single exposure:	Non-hazardous under Specific Target Organ Systemic Toxicity Single Exposure category.
Specific target organ Toxicity-Repeated exposure:	Non-hazardous under Specific Target Organ Systemic Toxicity Repeated Exposure category.
Long-Term (Chronic) Health Effects:	No data available.
Aspiration toxicity:	Non-hazardous under Aspiration category.
Other information:	No data available.
Agents Classified by IARC Monographs	
IARC Group 1:	Benzene
IARC Group 2A:	Not applicable
IARC Group 2B:	Vinyl acetate
National Toxicity Program (NTP) Status	
Known Human Carcinogen:	Benzene
Reasonably Anticipated to Be a Human Carcinogen:	Not applicable

Section 12: ECOLOGICAL INFORMATION

Toxicity

Acute Aquatic Ecotoxicity:	Non-hazardous under Aquatic Acute Environment category.
Chronic Aquatic Ecotoxicity:	Non-hazardous under Aquatic Chronic Environment category.
Persistence and degradability:	Biodegrades slowly.
Bioaccumulative potential:	Bioconcentration may occur.
Mobility in soil:	This material is expected to have essentially no mobility in soil. It absorbs strongly to most soil types.
Results of PBT and vPvB assessment:	No data available.
Other adverse effects:	Not determined

Section 13: DISPOSAL CONSIDERATION

Waste Treatment Methods

Disposal Methods: Dispose of according to Federal, State, Local, or Provincial regulations. Recycle used oil.

Waste Disposal Code(s)

Waste Description for Spent Product: Spent or discarded material is non-hazardous according to environmental regulations.



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Contaminated packaging: Recycle containers whenever possible.

Section 14: TRANSPORTATION

Basic Description: Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO).

DOT

Proper Shipping Name: No data available.

UN Number: No data available.

Hazard Class: No data available.

Packing Group: No data available.

TDG

Proper Shipping Name: No data available.

UN Number: No data available.

Hazard Class: No data available.

Packing Group: No data available.

IMDG

Proper Shipping Name: No data available.

UN Number: No data available.

Hazard Class: No data available.

Packing Group: No data available.

Marine Pollutant: No data available.

IATA

Proper Shipping Name: No data available.

UN Number: No data available.

Hazard Class: No data available.

Packing Group: No data available.

Section 15: REGULATORY INFORMATION

Chemical Inventories

U.S. State Restrictions: Not applicable

Canadian WHMIS: Uncontrolled product according to WHMIS classification criteria.

Canadian Regulations: Uncontrolled product according to hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

Chemical Name	Regulation	CAS #	%
None.	CERCLA		
None.	SARA 313		
None.	SARA EHS		
None.	SCA 12b		



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U.S. State Regulations

Chemical Name	Regulation	CAS #	%
None.	California Prop 65- Cancer		
None.	California Prop 65- Dev. Toxicity		
None.	California Prop 65- Reprod -fem		
None.	California Prop 65- Reprod-male		
Mineral oil, petroleum distillates, solvent-dewaxed light paraffinic	Massachusetts RTK List	64742-56-9	1 - 5
Mineral oil, petroleum distillates, solvent-refined light paraffinic	Massachusetts RTK List	64741-89-5	1 - 5
None.	New Jersey RTK List		
None.	Pennsylvania RTK List		
None.	Rhode Island RTK List		
None.	Minnesota Hazardous Substance List		
HMIS Ratings:		NFPA Ratings:	
Health: 1	Health: 1		
Fire: 1	Fire: 1		
Reactivity: 0	Reactivity: 0		
PPE: B			
KEY: 0 - Least	1 - Slight	2 - Moderate	3 - High 4 - Extreme

Section 16: OTHER INFORMATION

Date: January 24, 2018
Supersedes: January 1, 2015
Revision Information: Update to SDS format

References

ACGIH:	American Conference of Governmental Industrial Hygienists	NTP:	National Toxicology Program
AIHA:	American Industrial Hygiene Association	OSHA:	Occupational Safety and Health administration
CFR:	Code of Federal Regulations	PEL:	Permissible Exposure Limit
DOT:	United States Department of Transportation	RTK:	Right-to-Know
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals	SARA:	Superfund Amendments and Reauthorization Act
HMIS:	Hazardous Materials Identification System	STEL:	Short-term Exposure Limit
IARC:	International Agency for Research on Cancer	TDG:	Transportation of Dangerous Goods
IATA:	International Air Transportation Association	TLV:	Threshold limit value
IDLH:	Immediately Dangerous to Life or Health	TSCA:	Toxic Substances Control Act
IMDG:	International Maritime Dangerous Goods	TWA:	Time weighted average
NFPA:	National Fire Protection Association	UN:	United Nations
NIOSH:	National Institute for Occupational Safety and Health	WHMIS:	Workplace Hazardous Materials Information System



Full Synthetic Diesel Engine Oil

Disclaimer: This safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in the data sheet which we have received from outside sources and we believe the information to be correct, but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product in a safe manner and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied.



SAFETY DATA SHEET

Issuing Date 17-Jun-2019

Revision date 17-Jun-2019

Revision Number 2

1. Identification

Product identifier

Product Name BOSS HEAVY DUTY EXTREME DIESEL ENGINE OILS API CK-4 15W40, 10W30

Other means of identification

Product Code(s) GHSRBS-105

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Lubricant

Restrictions on use No information available

Details of the supplier of the safety data sheet

Initial supplier identifier

BOSS Lubricants

Manufacturer Address

6303 30 ST SE Calgary, AB T2C 1R4

Emergency telephone number

Initial supplier phone number (800) 844-9457

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS) Not a hazardous substance or mixture according to Canada's Hazardous Product Regulations.

Label elements

None

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS). Not a hazardous substance or mixture according to Canada's Hazardous Product Regulations.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other information

Repeated exposure may cause skin dryness or cracking.



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3. Composition/information on ingredients

Substance

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lubricating oils, petroleum, hydrotreated spent	64742-58-1	75-80	-	NA
Distillates, petroleum, solvent-dewaxed heavy paraffinic	64742-65-0	5 - 10	-	NA
Phosphorodithioic acid, mixed O,O-bis(sec-butyl and isooctyl) esters, zinc salts	113706-15-3	1 - 3	-	NA
Distillates, petroleum, solvent-refined light paraffinic	64741-89-5	0.1 – 0.8	-	NA
Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7	0.1 – 0.8	-	NA

4. First-aid measures

Description of first aid measures

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. IF exposed or concerned. Get medical advice/attention.

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention, if needed.

Eye contact

Skin contact

Wash with plenty of soap and water. Get medical attention, if needed.

Ingestion

Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

Symptoms

Prolonged contact may cause redness and irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media

Carbon dioxide, regular foam, dry chemical, water spray, water fog, Water or foam may cause frothing.

Unsuitable extinguishing media

Do not use high-pressure water streams.

Specific hazards arising from the chemical

Negligible fire hazard. Avoid friction, static electricity and sparks.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce sulfur oxides, aldehydes, ketones, carbon monoxide and unidentified organic compounds.



15W40,10W30

Fire Fighting Measures	A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. See section 8 for more information.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Keep out of drains, sewers, ditches and waterways. Ventilate the area. Avoid breathing vapors or mists.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Prevent product from entering drains.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Avoid breathing dust/fume/gas/mist/vapors/spray. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark proof tools and explosion-proof equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

8. Exposure controls/personal protection

Component Exposure Limits Canada, ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

ACGIH - Threshold Limit Values There are no biological limit values for any of this product's components.

- Biological Exposure Indices (BEI)

Engineering Controls Provide general ventilation. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection Wear safety glasses. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of vapors or mists. Eye wash fountain and emergency showers are recommended. Contact lens use is not recommended.

Respiratory Protection No respiratory protection is normally required. Protection provided by air purifying respirators is limited. Selection and use of respiratory protective equipment should be

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in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

Glove Recommendations

Where skin contact is likely, wear neoprene, nitrile, or equivalent protective gloves; use of natural rubber or equivalent gloves is not recommended.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and Lab coat or apron.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid	
Appearance	Viscous	
Color	Amber	
Odor	Petroleum distillates	
Odor threshold	No information available	
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	129.5 °C/ 265 °F	ASTM D7213
Flash point	165 °C/ 329 °F	ASTM D93
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	<0.1 mmHg @ 20°C	None known
Vapor density	No data available	None known
Relative density	0.87 @15°C	ASTM D1298
Water solubility	Insoluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Explosive properties	No information available.	
Oxidizing properties	No information available.	
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

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10. Stability and reactivity

Reactivity	Stable.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information**Information on likely routes of exposure****Product Information**

Inhalation	No known hazard by inhalation.
Eye contact	Not expected to cause eye irritation.
Skin contact	No known hazard in contact with skin.
Ingestion	No known hazard by swallowing.

Acute toxicity**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Lubricating oils, petroleum, hydrotreated spent (64742-58-1)

Oral LD50 Rat >2000 mg/kg;

Dermal LD50 Rabbit >4480 mg/kg

Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)

Oral LD50 Rat >15000 mg/kg (no deaths occurred);

Dermal LD50 Rabbit >5000 mg/kg (no deaths occurred)

Inhalation LC50 Rat >2400 mg/m³ 4 h (no deaths occurred)

Distillates, petroleum, hydrotreated heavy paraffinic (64742-54-7)

Oral LD50 Rat >15 g/kg (no deaths occurred);

Dermal LD50 Rabbit >5000 mg/kg (no deaths occurred)

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Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)

Oral LD50 Rat >15 g/kg;

Dermal LD50 Rabbit >5 g/kg;

Inhalation LC50 Rat 2.18 mg/L 4 h

Product Toxicity Data**Acute Toxicity Estimate**

Dermal > 2000 mg/kg

Oral > 2000 mg/kg

Delayed Effects

Repeated exposure may cause skin dryness or cracking.

Irritation/Corrosivity Data

May cause slight skin and respiratory irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No data available Reproductive Toxicity No information available for the product.

Specific Target Organ Toxicity**Single Exposure**

No information on significant adverse effects.

Repeated Exposure

No information on significant adverse effects.

Aspiration hazard

No information available for the product.

Medical Conditions Aggravated Exposure

Individuals with pre-existing respiratory tract (nose, throat, and lungs), eye, and/or skin by disorders may have increased susceptibility to the effects of exposure.

12. Ecological information**Ecotoxicity** Toxic to aquatic life.**Component Analysis - Aquatic Toxicity****Lubricating oils, petroleum, hydrotreated spent (64742-58-1)**

Fish: LC50 96 h Brachydanio rerio 79.6 mg/L [semi-static]; LC50 96 h Pimephales promelas 3.2 mg/L [semi-static]

Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)

Fish: LC50 96 h Oncorhynchus mykiss >5000 mg/L

Invertebrate: EC50 48 h Daphnia magna >1000 mg/L IUCLID

Distillates, petroleum, hydrotreated heavy paraffinic (64742-54-7)

Fish: LC50 96 h Oncorhynchus mykiss >5000 mg/L

Invertebrate: EC50 48 h Daphnia magna >1000 mg/L IUCLID

15W40,10W30

Distillates, petroleum, solvent-refined light paraffinic 64741-89-5

Fish: LC50 96 h Oncorhynchus mykiss >5000 mg/L

Invertebrate: EC50 48 h Daphnia magna >1000 mg/L IUCLID

Persistence and Degradability No information available for the product.**Bioaccumulative Potential** No information available for the product.**Mobility** No information available for the product.**Other Toxicity** No additional information is available.**13. Disposal considerations****Waste treatment methods****Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.**Contaminated packaging** Do not reuse empty containers.**14. Transport information****Transport Canada** Not regulated**TDG** Not regulated**DOT** Not regulated**15. Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories****TSCA** Complies.**DSL/NDSL** Complies.**EINECS/ELINCS** Contact supplier for inventory compliance status.**ENCS** Contact supplier for inventory compliance status.**IECSC** Contact supplier for inventory compliance status.**KECL** Contact supplier for inventory compliance status.**PICCS** Contact supplier for inventory compliance status.**AICS** Contact supplier for inventory compliance status.

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Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**16. Other information**

NFPA	Health hazards 1	Flammability 1	Instability 0	Physical and chemical properties -
HMIS	Health hazards 1	Flammability 1	Physical hazards 0	Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

*

Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AELG(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

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National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Issuing Date 17-Jun-2020**Revision date** 17-Jun-2020**Revision Note** No information available.**Disclaimer**

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End of Safety Data Sheet

Data for Regulatory Rules

Region	Template name	Revision Note
Canada	HGHS	2.0

GHS Product Information

Physical state	Liquid
Flash point °C	165
Boiling point / boiling range °C	129.5

Component Information

Canada

GHS Classification

Not Hazardous	Not a hazardous substance or mixture according to the Globally Harmonized System (GHS) Not a hazardous substance or mixture according to Canada's Hazardous Product Regulations.
Signal word	None
Precautionary Statements - Disposal	Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable



SAFETY DATA SHEET

Issuing Date 17-Jun-2019

Revision date 17-Jun-2019

Revision Number 2

1. Identification

Product identifier

Product Name BOSS HEAVY DUTY EXTREME DIESEL ENGINE OILS API CK-4 15W40, 10W30

Other means of identification

Product Code(s) GHSRBS-105

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Lubricant

Restrictions on use No information available

Details of the supplier of the safety data sheet

Initial supplier identifier

BOSS Lubricants

Manufacturer Address

6303 30 ST SE Calgary, AB T2C 1R4

Emergency telephone number

Initial supplier phone number (800) 844-9457

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS) Not a hazardous substance or mixture according to Canada's Hazardous Product Regulations.

Label elements

None

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS). Not a hazardous substance or mixture according to Canada's Hazardous Product Regulations.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other information

Repeated exposure may cause skin dryness or cracking.



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3. Composition/information on ingredients

Substance

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lubricating oils, petroleum, hydrotreated spent	64742-58-1	75-80	-	NA
Distillates, petroleum, solvent-dewaxed heavy paraffinic	64742-65-0	5 - 10	-	NA
Phosphorodithioic acid, mixed O,O-bis(sec-butyl and isooctyl) esters, zinc salts	113706-15-3	1 - 3	-	NA
Distillates, petroleum, solvent-refined light paraffinic	64741-89-5	0.1 – 0.8	-	NA
Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7	0.1 – 0.8	-	NA

4. First-aid measures

Description of first aid measures

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. IF exposed or concerned. Get medical advice/attention.

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention, if needed.

Eye contact

Skin contact

Wash with plenty of soap and water. Get medical attention, if needed.

Ingestion

Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

Symptoms

Prolonged contact may cause redness and irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media

Carbon dioxide, regular foam, dry chemical, water spray, water fog, Water or foam may cause frothing.

Unsuitable extinguishing media

Do not use high-pressure water streams.

Specific hazards arising from the chemical

Negligible fire hazard. Avoid friction, static electricity and sparks.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce sulfur oxides, aldehydes, ketones, carbon monoxide and unidentified organic compounds.



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Fire Fighting Measures

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Use personal protective equipment as required. See section 8 for more information.

Methods and material for containment and cleaning up**Methods for containment**

Stop leak if you can do it without risk. Keep out of drains, sewers, ditches and waterways. Ventilate the area. Avoid breathing vapors or mists.

Methods for cleaning up

Cover liquid spill with sand, earth or other non-combustible absorbent material. Prevent product from entering drains.

7. Handling and storage**Precautions for safe handling****Advice on safe handling**

Avoid breathing dust/fume/gas/mist/vapors/spray. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark proof tools and explosion-proof equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

8. Exposure controls/personal protection**Component Exposure Limits**

Canada, ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

ACGIH - Threshold Limit Values

There are no biological limit values for any of this product's components.

- Biological Exposure Indices (BEI)**Engineering Controls**

Provide general ventilation. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls.

Individual Protection Measures, such as Personal Protective Equipment**Eye/face protection**

Wear safety glasses. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of vapors or mists. Eye wash fountain and emergency showers are recommended. Contact lens use is not recommended.

Respiratory Protection

No respiratory protection is normally required. Protection provided by air purifying respirators is limited. Selection and use of respiratory protective equipment should be

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in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

Glove Recommendations

Where skin contact is likely, wear neoprene, nitrile, or equivalent protective gloves; use of natural rubber or equivalent gloves is not recommended.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and Lab coat or apron.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid	
Appearance	Viscous	
Color	Amber	
Odor	Petroleum distillates	
Odor threshold	No information available	
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	129.5 °C/ 265 °F	ASTM D7213
Flash point	165 °C/ 329 °F	ASTM D93
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	<0.1 mmHg @ 20°C	None known
Vapor density	No data available	None known
Relative density	0.87 @15°C	ASTM D1298
Water solubility	Insoluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Explosive properties	No information available.	
Oxidizing properties	No information available.	
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

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10. Stability and reactivity

Reactivity	Stable.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information**Information on likely routes of exposure****Product Information**

Inhalation	No known hazard by inhalation.
Eye contact	Not expected to cause eye irritation.
Skin contact	No known hazard in contact with skin.
Ingestion	No known hazard by swallowing.

Acute toxicity**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Lubricating oils, petroleum, hydrotreated spent (64742-58-1)

Oral LD50 Rat >2000 mg/kg;
Dermal LD50 Rabbit >4480 mg/kg

Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)

Oral LD50 Rat >15000 mg/kg (no deaths occurred);
Dermal LD50 Rabbit >5000 mg/kg (no deaths occurred)
Inhalation LC50 Rat >2400 mg/m3 4 h (no deaths occurred)

Distillates, petroleum, hydrotreated heavy paraffinic (64742-54-7)

Oral LD50 Rat >15 g/kg (no deaths occurred);
Dermal LD50 Rabbit >5000 mg/kg (no deaths occurred)

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Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)

Oral LD50 Rat >15 g/kg;

Dermal LD50 Rabbit >5 g/kg;

Inhalation LC50 Rat 2.18 mg/L 4 h

Product Toxicity Data**Acute Toxicity Estimate**

Dermal > 2000 mg/kg

Oral > 2000 mg/kg

Delayed Effects

Repeated exposure may cause skin dryness or cracking.

Irritation/Corrosivity Data

May cause slight skin and respiratory irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No data available Reproductive Toxicity No information available for the product.

Specific Target Organ Toxicity**Single Exposure**

No information on significant adverse effects.

Repeated Exposure

No information on significant adverse effects.

Aspiration hazard

No information available for the product.

Medical Conditions Aggravated Exposure

Individuals with pre-existing respiratory tract (nose, throat, and lungs), eye, and/or skin by disorders may have increased susceptibility to the effects of exposure.

12. Ecological information**Ecotoxicity** Toxic to aquatic life.**Component Analysis - Aquatic Toxicity****Lubricating oils, petroleum, hydrotreated spent (64742-58-1)**

Fish: LC50 96 h Brachydanio rerio 79.6 mg/L [semi-static]; LC50 96 h Pimephales promelas 3.2 mg/L [semi-static]

Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)

Fish: LC50 96 h Oncorhynchus mykiss >5000 mg/L

Invertebrate: EC50 48 h Daphnia magna >1000 mg/L IUCLID

Distillates, petroleum, hydrotreated heavy paraffinic (64742-54-7)

Fish: LC50 96 h Oncorhynchus mykiss >5000 mg/L

Invertebrate: EC50 48 h Daphnia magna >1000 mg/L IUCLID

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Distillates, petroleum, solvent-refined light paraffinic 64741-89-5

Fish: LC50 96 h Oncorhynchus mykiss >5000 mg/L

Invertebrate: EC50 48 h Daphnia magna >1000 mg/L IUCLID

Persistence and Degradability No information available for the product.**Bioaccumulative Potential** No information available for the product.**Mobility** No information available for the product.**Other Toxicity** No additional information is available.**13. Disposal considerations****Waste treatment methods****Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.**Contaminated packaging** Do not reuse empty containers.**14. Transport information****Transport Canada** Not regulated**TDG** Not regulated**DOT** Not regulated**15. Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories****TSCA** Complies.**DSL/NDSL** Complies.**EINECS/ELINCS** Contact supplier for inventory compliance status.**ENCS** Contact supplier for inventory compliance status.**IECSC** Contact supplier for inventory compliance status.**KECL** Contact supplier for inventory compliance status.**PICCS** Contact supplier for inventory compliance status.**AICS** Contact supplier for inventory compliance status.

15W40,10W30

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**16. Other information**

NFPA	Health hazards 1	Flammability 1	Instability 0	Physical and chemical properties -
HMIS	Health hazards 1	Flammability 1	Physical hazards 0	Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

*

Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AELG(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

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Food Research Journal

Hazardous Substance Database

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Japan GHS Classification

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National Toxicology Program (NTP)

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Organization for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Issuing Date 17-Jun-2020**Revision date** 17-Jun-2020**Revision Note** No information available.**Disclaimer**

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End of Safety Data Sheet

Data for Regulatory Rules

Region	Template name	Revision Note
Canada	HGHS	2.0

GHS Product Information

Physical state	Liquid
Flash point °C	165
Boiling point / boiling range °C	129.5

Component Information

Canada

GHS Classification

Not Hazardous	Not a hazardous substance or mixture according to the Globally Harmonized System (GHS) Not a hazardous substance or mixture according to Canada's Hazardous Product Regulations.
Signal word	None
Precautionary Statements - Disposal	Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable



Artic Winter 3% Moly Grease

Safety Data Sheet

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Material Name: Artic Winter 3% Moly Grease
Synonyms: Oil-based Grease
Restrictions on Use: None known.

Supplier

Boss Lubricants	Emergency Phone Number(s)
112, 6303 30 St. SE	Business: (800) 844-9457
Calgary, AB	Fax #: (403) 279-2272
T2C 1R4	www.bosslubricants.com
Issue Date:	May 4, 2018
Supersedes Issue Date:	January 01, 2015

Section 2: HAZARDS IDENTIFICATION

Classification in accordance with Schedule 1 of Canada's Hazardous Products Regulations (HPR) (SOR/2015-17) and paragraph (d) of 29 CFR 1910.1200 in the United States

Classification of the substance mixture: GHS08

Aspiration Hazard: Category 1 H304 Maybe fatal if swallowed and enter airways.
Eye Irritation: Category 2A H319 Causes serious eye irritation.
Aquatic Acute 3: H402 Harmful to aquatic life.
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

Label Elements

GHS Label Elements: The product is classified and labeled according to the Globally Harmonized System(GHS)
Hazard Pictograms: GHS07, GHS08

Classification System

NFPA ratings (scale 0-4)

Health: 2
Fire: 1
Reactivity: 0

HMIS ratings (scale 0-4)

Health: 2
Fire: 1
Reactivity: 0

Signal Word: Danger

Hazard-determining components of labeling: Distillates(Petroleum), Hydro treated heavy naphthenic.



Artic Winter 3% Moly Grease

Hazard Statement(s)

H319:	Causes serious eye irritation.
H304:	Maybe fatal if swallowed and enter airways.
H402:	Harmful to aquatic life.
H412:	Harmful to aquatic life with long lasting effects

Precautionary Statement(s)

P101:	If medical advice is needed, have product container or label at hand.
P102:	Keep out of reach of children.
P103:	Read label before use.
P264:	Wash thoroughly after handling.
P273:	Avoid release to the environment.
P280:	Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, If present and easy to do. Continue Rinsing.
P301+P310	If swallowed, immediately call a Poison Center/Doctor
P331	Do not induce vomiting.
P337 + P313:	If eye irritation persists: Get medical advice/attention.
P405	Store locked up.
P501:	Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions

Dangerous Components

CAS	Component Name	Percent
64742-52-5	Distillates (Petroleum), Hydro treated heavy naphthenic	25-50% w/w
68457-79-4	Zinc Dialkylthiophosphate	0.1-2.5%w/w
122-39-4	Diphenylamine	0.1-2.5%w/w

Section 4: FIRST AID MEASURES

Description of first aid measures

Inhalation:	Supply fresh air; consult doctor in case of complaints.
Skin:	Generally the product does not irritate the skin
Eye:	Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Ingestion:	If symptoms persist consult a doctor.



Artic Winter 3% Moly Grease

Information for Doctor

Most Important Symptoms/Effects:

Acute: No information on significant adverse effects.

Delayed: No information on significant adverse effects.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

Section 5: FIRE FIGHTING MEASURES

Extinguishing Media

Suitable extinguishing agents: Use firefighting measures that suit the environment.

Special hazards arising from the substance or mixture: No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions,

Protective Equipment and

Emergency Procedures:

Not required.

Methods and Materials for

Containment and Cleaning Up:

Absorb with liquid binding material (sand, diatomite, acid binders, universal binders, sawdust.)

Dispose contaminated material as waste according to item 13

Environmental Precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Artic Winter 3% Moly Grease

Section 7: HANDLING AND STORAGE

Precautions for safe handling:	No special precautions are necessary if used correctly.
Information about protection against explosions and fires:	No special measures required.
Requirements to be met by storerooms and receptacles:	No special requirements.
Information about storage in one common storage facility:	Not required
Further information about storage conditions:	Keep receptacle tightly sealed
Specific end use(s):	No further relevant information available.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical systems: No further data; see item 7

Control parameters

Components with limit values that require monitoring at the workplace:

1317-33-5 molybdenum disulphide (2.5-10%):	EL Long-term value: $3 \cdot 10^{**} \text{ mg/m}^3$ as Mo; *respirable **inhalable
122-39-4 diphenylamine (0.1-2.5%):	EL Long-term value: 10 mg/m^3
	EV Long-term value: 10 mg/m^3

Additional information: The lists that were valid during the creation were used as basis

Exposure Controls

General protective and hygienic measures: Keep away from foodstuffs, beverages and feed.

Skin: Immediately remove all soiled and contaminated clothing.

Eye: Avoid contact with the eyes.

Breathing equipment: Not required.

Protection of hands: The glove material has to be impermeable and resistant to the product/ the substance/ the/the preparation. Due to missing tests no recommendation to the glove material can be given for the product/the preparation/chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application

Penetration time of glove material: The exact breakthrough time has to be found out by the manufacturer of the gloves and has to be observed

Eye Protection: Tightly sealed goggles.



Artic Winter 3% Moly Grease

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark Grey	Physical State:	Semi-Solid
Odor:	Petroleum-like	Color:	Dark Grey
Odor Threshold:	Not available	pH:	Not available
Melting Point:	Not available	Boiling Point:	338°C
Boiling Point Range:	Not available	Freezing point:	Not available
Evaporation Rate:	Not available	Flammability (solid, gas):	Not available
Autoignition Temperature:	Not available	Flash Point:	>163 °C
Lower Explosive Limit:	Not available	Decomposition temperature:	Not available
Upper Explosive Limit:	Not available	Vapor Pressure:	Not available
Vapor Density (air=1):	Not available	Specific Gravity: (water=1)	0.87
Water Solubility:	Insoluble	Partition coefficient: (n-octanol/water)	Not available
Viscosity:	Not available	Kinematic viscosity:	Not available
Solubility (Other):	Not miscible or difficult to mix	Density:	1.06768 g/cm ³
Pour Point:	Not available	Molecular Weight:	Not available
Volatile Organic Compounds: (As regulated)	Not available		

Section 10: STABILITY AND REACTIVITY

Reactivity:	No further relevant information available
<u>Chemical Stability</u>	
Thermal decomposition/ conditions to be avoided:	No decomposition if used according to specifications.
Possibility of Hazardous Reactions:	No dangerous reactions known.
Conditions to Avoid:	No further relevant information available.
Incompatible Materials:	No further relevant information available.
Hazardous decomposition products:	No dangerous decomposition products known.

Section 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral LD50 >9,340-9,674 mg/kg



Artic Winter 3% Moly Grease

Dermal LD50 >68,201 mg/kg

Inhalative LC50/4 h >94,000 mg/l

122-39-4 diphenylamine

Oral LD50 100 mg/kg (ATE)

Dermal LD50 300 mg/kg (ATE)

Inhalative LC50/4 h 3 mg/l (ATE)

Primary Irritant Effect:

Skin: No irritant effect

Eye: No irritant effect

Additional Toxicological Information: The product shows the following dangers according to internally approved calculation methods for preparations: Irritant.

Carcinogenic categories:

IARC (International Agency for Research on Cancer) None of the ingredients is listed.

NTP (National Toxicology Program) None of the ingredients is listed.

Section 12: ECOLOGICAL INFORMATION

Toxicity

Aquatic Toxicity No further relevant information available.

Persistence and Degradability: No further relevant information available.

Behaviour in environmental systems

Bioaccumulative Potential: No further relevant information available.

Mobility in soil: No information available for the product.

Ecotoxicological Effects

Remark: Harmful to fish

Additional Ecological Information

General Notes: Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

Other adverse effects: No further relevant information available.

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods



Artic Winter 3% Moly Grease

Recommendation: Must not be disposed of together with household garbage.
Do not allow product to reach sewage system.

Uncleaned Packaging

Recommendation: Disposal must be made according to official regulations.

Section 14: TRANSPORT INFORMATION

Basic Description: Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO).

DOT

Proper Shipping Name: Not regulated for transport.

UN Number: Not regulated for transport.

Hazard Class: Not regulated for transport.

Packing Group: Not regulated for transport.

TDG

Proper Shipping Name: Not regulated for transport.

UN Number: Not regulated for transport.

Hazard Class: Not regulated for transport.

Packing Group: Not regulated for transport.

IMDG

Proper Shipping Name: Not regulated for transport.

UN Number: Not regulated for transport.

Hazard Class: Not regulated for transport.

Packing Group: Not regulated for transport.

Marine Pollutant: Not regulated for transport.

IATA

Proper Shipping Name: Not regulated for transport.

UN Number: Not regulated for transport.

Hazard Class: Not regulated for transport.

Packing Group: Not regulated for transport.

International Bulk Chemical Code: This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Section 335 (Extremely Hazardous Substances): None of the ingredients listed.

Section 313 (Specific Toxic Chemical Listings): 68457-79-4 Zinc Dialkylthiophosphate 0.1-2.5%

122-394-4 Diphenylamine 0.1-2.5 %

TSCA (Toxic Substances Control Act): All ingredients are listed.

Canadian Substance Listing



Artic Winter 3% Moly Grease

Canadian Domestic Substances List (DSL):	All ingredients are listed.
Canadian Ingredient Disclosure list (limit 0.1%):	122-39-4 Diphenylamine
Canadian Ingredient Disclosure list (limit 1%):	None of the ingredients is listed.
GHS label elements:	The product is classified and labeled according to the Globally Harmonized System (GHS).



Hazard pictograms:	
Signal word:	Warning
Hazard-determining components of labeling:	Distillates (Petroleum), Hydro treated heavy naphthenic
Hazard statements:	Causes serious eye irritation. Harmful to aquatic life with long lasting effects

Precautionary Statements

P101:	If medical advice is needed, have product container or label at hand.
P102:	Keep out of reach of children.
P103:	Read label before use.
P264:	Wash thoroughly after handling.
P273:	Avoid release to the environment.
P280:	Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, If present and easy to do. Continue Rinsing.
P301+P310	If swallowed, immediately call a Poison Center/Doctor
P331	Do not induce vomiting.
P337 + P313:	If eye irritation persists: Get medical advice/attention.
P405	Store locked up.
P501:	Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 16: OTHER INFORMATION

Issue Date:	May 4, 2018
Supersedes Issue Date:	January 01, 2015
Revision Information:	Update to SDS.

References

ACGIH:	American Conference of Governmental Industrial Hygienists	IMDG:	International Maritime Dangerous Goods
AIHA:	American Industrial Hygiene Association	IUCLID:	International Uniform Chemical Information Database
BOD:	Biochemical Oxygen Demand	NFPA:	National Fire Protection Association



Artic Winter 3% Moly Grease

°C:	Celsius	NIOSH:	National Institute for Occupational Safety and Health
CAS:	Chemical Abstracts Service	NTP:	National Toxicology Program
CERCLA:	Comprehensive Environmental Response, Compensation, and Liability Act	OSHA:	Occupational Safety and Health Administration
CFR:	Code of Federal Regulations	PEL:	Permissible Exposure Limit
CPR:	Controlled Products Regulations	RTK:	Right-to-Know
DOT:	United States Department of Transportation	SARA:	Superfund Amendments and Reauthorization Act
DSL:	Domestic Substances List	STEL:	Short-term Exposure Limit
EPA:	Environmental Protection Agency	TDG:	Transportation of Dangerous Goods
°F:	Fahrenheit	TLV:	Threshold limit value
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals	TSCA:	Toxic Substances Control Act
HMIS:	Hazardous Materials Identification System	TWA:	Time weighted average
IARC:	International Agency for Research on Cancer	UN:	United Nations
IATA:	International Air Transportation Association	WHMIS:	Workplace Hazardous Materials Information System
IDLH:	Immediately Dangerous to Life or Health		

Disclaimer This safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in the data sheet which we have received from outside sources and we believe the information to be correct, but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product in a safe manner and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied.

SAFETY DATA SHEET



Castrol EDGE 0W-40 A3/B4

Section 1. Identification

GHS product identifier	Castrol EDGE 0W-40 A3/B4
Product code	467465-US65
SDS #	467465
<u>Relevant identified uses of the substance or mixture and uses advised against</u>	
Use of the substance/ mixture	Engine Oils. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: 1-888-CASTROL
Supplier	Wakefield Canada Inc. 3620 Lakeshore Blvd West Toronto, Ontario, Canada M8W 1P2 Phone Number - 416-252-5511
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY TELEPHONE NUMBER	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)

Section 2. Hazard identification

Classification of the substance or mixture	Not classified.
<u>GHS label elements</u>	
Signal word	No signal word.
Hazard statements	No known significant effects or critical hazards.
<u>Precautionary statements</u>	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Other hazards which do not result in classification	Defatting to the skin. USED ENGINE OILS Used engine oil may contain hazardous components which have the potential to cause skin cancer. See Toxicological Information, section 11 of this Safety Data Sheet.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture

Synthetic base stock. Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	CAS number	% (w/w)
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	68037-01-4	30 - 60
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	15 - 40
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	3 - 7
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	1 - 5
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	1 - 5
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	1 - 5
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	0.5 - 1.5

**** Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.**

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects.
Specific treatments	No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.
-------------------------------------	--

Unsuitable extinguishing media	Do not use water jet.
---------------------------------------	-----------------------

Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
---	---

Hazardous thermal decomposition products	Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide)
---	--

Special protective actions for fire-fighters	No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
---	--

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	CA Alberta Provincial (Canada). 8 hrs OEL: 5 mg/m ³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Issued/Revised: 7/2009 Form: Mist CA Quebec Provincial (Canada). TWAEV: 5 mg/m ³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m ³ 15 minutes. Issued/Revised: 1/2000 Form: mist

Section 8. Exposure controls/personal protection

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	CA Alberta Provincial (Canada). 8 hrs OEL: 5 mg/m ³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Issued/Revised: 7/2009 Form: Mist CA Quebec Provincial (Canada). TWA EV: 5 mg/m ³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m ³ 15 minutes. Issued/Revised: 1/2000 Form: mist
Distillates (petroleum), hydrotreated heavy paraffinic	CA Alberta Provincial (Canada). 8 hrs OEL: 5 mg/m ³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Issued/Revised: 7/2009 Form: Mist CA Quebec Provincial (Canada). TWA EV: 5 mg/m ³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m ³ 15 minutes. Issued/Revised: 1/2000 Form: mist
Distillates (petroleum), solvent-dewaxed heavy paraffinic	CA Alberta Provincial (Canada). 8 hrs OEL: 5 mg/m ³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Issued/Revised: 7/2009 Form: Mist CA Quebec Provincial (Canada). TWA EV: 5 mg/m ³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m ³ 15 minutes. Issued/Revised: 1/2000 Form: mist
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	CA Alberta Provincial (Canada). 8 hrs OEL: 5 mg/m ³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Issued/Revised: 7/2009 Form: Mist CA Quebec Provincial (Canada). TWA EV: 5 mg/m ³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m ³ 15 minutes. Issued/Revised: 1/2000 Form: mist
Distillates (petroleum), hydrotreated heavy paraffinic	CA Alberta Provincial (Canada). 8 hrs OEL: 5 mg/m ³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m ³ 15 minutes. Issued/Revised: 7/2009 Form: Mist CA Quebec Provincial (Canada). TWA EV: 5 mg/m ³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m ³ 15 minutes. Issued/Revised: 1/2000 Form: mist

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national

Section 8. Exposure controls/personal protection

Environmental exposure controls

organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state

Liquid.

Color

Amber. [Light]

Odor

Not available.

Odor threshold

Not available.

pH

Not applicable.

Melting point/freezing point

Not available.

Product name Castrol EDGE 0W-40 A3/B4

Product code 467465-US65

Page: 5/10

Version 2

Date of issue 01/24/2022.

Format Canada

Language ENGLISH

(Canada)

(ENGLISH)

Section 9. Physical and chemical properties

Boiling point, initial boiling point, and boiling range

Not available.

Flash point

Closed cup: 209°C (408.2°F) [Pensky-Martens]

Pour point

-57 °C

Drop Point

Not available.

Evaporation rate

Not available.

Flammability

Flammability (solid, gas)

Not applicable. Based on - Physical state

Lower and upper explosion limit/flammability limit

Not available.

Vapor pressure

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	<0.08	<0.011	ASTM D 5191			
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), hydrotreated heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-dewaxed heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	<0.08	<0.011	ASTM D 5191			

Relative vapor density

Not available.

Density

844 kg/m³ (0.844 g/cm³) at 15°C

Relative density

Not available.

Solubility

insoluble in water.

Partition coefficient: n-octanol/water

Not applicable.

Auto-ignition temperature

Ingredient name	°C	°F	Method
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	343 to 369	649.4 to 696.2	ASTM D 2159

Decomposition temperature

Not available.

Viscosity

Kinematic: 74 mm²/s (74 cSt) at 40°C

Kinematic: 13.2 mm²/s (13.2 cSt) at 100°C

Particle characteristics

Median particle size

Not applicable.

Section 10. Stability and reactivity

Reactivity

No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

Chemical stability

The product is stable.

Section 10. Stability and reactivity

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid Avoid all possible sources of ignition (spark or flame).

Incompatible materials Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Aspiration hazard

Name	Result
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	ASPIRATION HAZARD - Category 1
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated heavy paraffinic	ASPIRATION HAZARD - Category 1
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Inhalation Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General USED ENGINE OILS
Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Section 11. Toxicological information

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Partially biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-

Section 14. Transport information

Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Special precautions for user Not available.

Transport in bulk according to IMO instruments Not available.

Section 15. Regulatory information

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

Other regulations

Australia inventory (AIIIC) At least one component is not listed.

Canada inventory At least one component is not listed.

China inventory (IECSC) At least one component is not listed.

Japan inventory (CSCL) All components are listed or exempted.

Korea inventory (KECI) All components are listed or exempted.

Philippines inventory (PICCS) At least one component is not listed.

Taiwan Chemical Substances Inventory (TCSI) All components are listed or exempted.

United States inventory (TSCA 8b) At least one component is not listed.

REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

Section 16. Other information

History

Date of issue/Date of revision 1/24/2022

Date of previous issue 10/12/2020.

Version 2

Prepared by Product Stewardship

Key to abbreviations

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS Number = Chemical Abstracts Service Registry Number

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HPR = Hazardous Products Regulations

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]

UN = United Nations

Varies = may contain one or more of the following 64741-88-4, 64741-89-5,

Section 16. Other information

64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

References

Not available.

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

SAFETY DATA SHEET



Section 1. Identification

Product name Castrol EDGE 5W-40
SDS # 463878
Code 463878-DE01

Relevant identified uses of the substance or mixture and uses advised against

Product use Automotive engine crankcase lubricant.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07470
Telephone: 1-888-CASTROL

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735
Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)

Section 2. Hazards identification

OSHA/HCS status This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Hazards not otherwise classified Defatting to the skin.
USED ENGINE OILS
Used engine oil may contain hazardous components which have the potential to cause skin cancer.
See Toxicological Information, section 11 of this Safety Data Sheet.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	%
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	≥10 - ≤25
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	≤10
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	≤3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Product name Castrol EDGE 5W-40 **Product code** 463878-DE01 **Page:** 1/9
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Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)
nitrogen oxides (NO, NO₂ etc.)

Special protective actions for fire-fighters No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

Section 6. Accidental release measures

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Distillates (petroleum), hydrotreated heavy paraffinic

ACGIH TLV (United States).

TWA: 5 mg/m³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction

OSHA PEL (United States).

TWA: 5 mg/m³ 8 hours. Issued/Revised: 6/1993

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

None.

Distillates (petroleum), hydrotreated heavy paraffinic

ACGIH TLV (United States).

TWA: 5 mg/m³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction

OSHA PEL (United States).

TWA: 5 mg/m³ 8 hours. Issued/Revised: 6/1993

Section 8. Exposure controls/personal protection

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state

Liquid.

Color

Amber.

Odor

Not available.

Odor threshold

Not available.

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Section 9. Physical and chemical properties

pH	Not applicable.
Melting point/freezing point	Not available.
Boiling point, initial boiling point, and boiling range	Not available.
Flash point	Closed cup: 202°C (395.6°F) [Pensky-Martens]
Pour point	-42 °C
Evaporation rate	Not available.
Flammability	Not applicable. Based on - Physical state
Lower and upper explosion limit/flammability limit	Not available.
Vapor pressure	

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), hydrotreated heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), hydrotreated heavy paraffinic	<0.08	<0.011	ASTM D 5191			
bis(nonylphenyl)amine	<0.01	<0.0013	EU A.4	0	0	EU A.4

Relative vapor density	Not available.
Density	<1000 kg/m ³ (<1 g/cm ³) at 15°C
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not applicable.
Auto-ignition temperature	

Ingredient name	°C	°F	Method
1-Tetradecene, polymer with 1-dodecene, distn. residues, hydrogenated, C24-84 fraction	343 to 369	649.4 to 696.2	ASTM D 2156
bis(nonylphenyl)amine	440	824	EU A.15

Decomposition temperature	Not available.
Viscosity	Kinematic: 75.37 mm ² /s (75.37 cSt) at 40°C Kinematic: 12.8 to 13.5 mm ² /s (12.8 to 13.5 cSt) at 100°C

Particle characteristics	
Median particle size	Not applicable.

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).

Section 10. Stability and reactivity

Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Aspiration hazard

Name	Result
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated heavy paraffinic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Skin contact

No known significant effects or critical hazards.

Inhalation

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

No specific data.

Skin contact

Adverse symptoms may include the following:
irritation
dryness
cracking

Inhalation

No specific data.

Ingestion

No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Potential chronic health effects

General

USED ENGINE OILS

Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Numerical measures of toxicity

Section 11. Toxicological information

[Acute toxicity estimates](#)

Not available.

Section 12. Ecological information

[Toxicity](#)

No testing has been performed by the manufacturer.

[Persistence and degradability](#)

Expected to be biodegradable.

[Bioaccumulative potential](#)

This product is not expected to bioaccumulate through food chains in the environment.

[Mobility in soil](#)

[Soil/water partition coefficient \(K_{oc}\)](#)

Not available.

[Mobility](#)

Spillages may penetrate the soil causing ground water contamination.

[Other adverse effects](#)

No known significant effects or critical hazards.

[Other ecological information](#)

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

[Disposal methods](#)

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

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Section 14. Transport information

Special precautions for user Not available.

Transport in bulk according to IMO instruments Not available.

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b) At least one component is not listed.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification Not applicable.

SARA 313

Form R - Reporting requirements This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification This product does not contain any hazardous ingredients at or above regulated thresholds.

State regulations

Massachusetts

The following components are listed: OIL MIST, MINERAL; OIL MIST, MINERAL; OIL MIST, MINERAL; OIL MIST, MINERAL

New Jersey

The following components are listed: MINERAL OIL (UNTREATED and MILDLY TREATED); MINERAL OIL (UNTREATED and MILDLY TREATED)

Pennsylvania

None of the components are listed.

California Prop. 65

⚠ WARNING: This product can expose you to chemicals including Ethylene oxide, Lead, Benzene and cadmium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Nickel, Naphthalene, Ethylbenzene and Arsenic, which are known to the State of California to cause cancer, and Methanol, Ethylene Glycol, Toluene and Methanol, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Other regulations

Australia inventory (AIIIC) At least one component is not listed.

Canada inventory At least one component is not listed.

China inventory (IECSC) At least one component is not listed.

Japan inventory (CSCL) At least one component is not listed.

Korea inventory (KECI) All components are listed or exempted.

Philippines inventory (PICCS) At least one component is not listed.

Taiwan Chemical Substances Inventory (TCSI) All components are listed or exempted.

REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

Section 16. Other information

National Fire Protection Association (U.S.A.)



Section 16. Other information

History

Date of issue/Date of revision 04/18/2022.

Date of previous issue 04/10/2022.

Prepared by Product Stewardship

Key to abbreviations

ACGIH = American Conference of Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OEL = Occupational Exposure Limit
SDS = Safety Data Sheet
STEL = Short term exposure limit
TWA = Time weighted average
UN = United Nations
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.
Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

 Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Clay Cap

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)
Issue date: 11/26/2021 Revision date: 11/26/2021 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Product name : Clay Cap

1.2. Recommended use and restrictions on use

Recommended use : Drilling fluid additive

1.3. Supplier

Supplier
Canadian Drilling Fluids Ltd
31 Prestwick Place SE
T2Z 4P4 Calgary, AB - Canada
T +1 306 717 3370

1.4. Emergency telephone number

Emergency number : +1 306 717 3370

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Not classified.

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of WHMIS 2015

Clay Cap

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment	: This product contains potassium acetate. Though ingestion of large amounts of potassium salts usually results in vomiting, excessive potassium absorption can cause hyperkalemia. Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
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SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media	: carbon dioxide (CO ₂), dry chemical powder, water spray. Use extinguishing media appropriate for surrounding fire.
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5.2. Unsuitable extinguishing media

Unsuitable extinguishing media	: None known.
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5.3. Specific hazards arising from the hazardous product

Fire hazard	: Products of combustion may include, and are not limited to: oxides of carbon.
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5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting	: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).
--------------------------------	--

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
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Clay Cap

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

6.2. Methods and materials for containment and cleaning up

- For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.
- Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.
- Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear suitable gloves
Eye protection:
Safety glasses or goggles are recommended when using product.
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

Clay Cap

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: No dangerous reactions known under normal conditions of use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Heat. Incompatible materials. reactive metals (Al, K, Zn ...).
Incompatible materials	: Strong oxidizers. Strong acids.
Hazardous decomposition products	: May include, and are not limited to: oxides of carbon.
Hardening time:	: No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.
Skin corrosion/irritation	: Not classified.
Serious eye damage/irritation	: Not classified.
Respiratory or skin sensitization	: Not classified.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Not classified.
Reproductive toxicity	: Not classified.
STOT-single exposure	: Not classified.
STOT-repeated exposure	: Not classified.
Aspiration hazard	: Not classified.

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Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: May cause long-term adverse effects in the aquatic environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified.

12.2. Persistence and degradability

Clay Cap	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Clay Cap	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	: Not classified.
Other information	: No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Recycle empty containers where allowed.
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SECTION 14: Transport information

In accordance with TDG

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (TDG)	: Not applicable
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Clay Cap

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

14.3. Transport hazard class(es)

TDG

Transport hazard class(es) (TDG) : Not applicable

14.4. Packing group

Packing group (TDG) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

TDG

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

Issue date : 11/26/2021

Revision date : 11/26/2021

Other information : None.

Prepared by : Nexreg Compliance Inc.
www.Nexreg.com



Safety Data Sheet (SDS), Canada - Nexreg 2021

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SAFETY DATA SHEET

1. Identification

Product identifier	CETCO® COATED TABLETS - 14
Other means of identification	None.
Recommended use	Not available.
Recommended restrictions	Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	CETCO, an MTI Company
Address	2870 Forbs Avenue Hoffman Estates, IL 60192 United States
Telephone	General Information 800 527-9948
Website	http://www.cetco.com/
E-mail	safetydata@mineralstech.com
Emergency phone number	Emergency 1.866.519.4752/1 760 476 3962
Americas	1.866.519.4752 (US, Canada, Mexico) 1 760 476 3962

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Carcinogenicity Category 1A Specific target organ toxicity, repeated exposure Category 1
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	



Signal word	Danger
Hazard statement	May cause cancer. Causes damage to organs through prolonged or repeated exposure.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If exposed or concerned: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Storage	Store in accordance with local/regional/national regulations.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	97% of the mixture consists of component(s) of unknown acute oral toxicity. 97% of the mixture consists of component(s) of unknown acute dermal toxicity. 97% of the mixture consists of component(s) of unknown acute inhalation toxicity. 97% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
BENTONITE		1302-78-9	90 - 100
Other components below reportable levels			3 - < 5

Constituents

Chemical name	Common name and synonyms	CAS number	%
QUARTZ	CRYSTALLINE SILICA, QUARTZ SILICA (QUARTZ)	14808-60-7	<= 8
CRISTOBALITE		14464-46-1	<= 2

Composition comments Occupational Exposure Limits for constituents are listed in Section 8. Bentonite is composed mainly of smectite group minerals but the composition is varied, as expected for a UVCB substance, and other mineral constituents will be present in small and varying amounts. These minor constituents are not relevant for classification and labelling.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Get medical attention if irritation develops and persists.
Eye contact	Do not rub eyes.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Dust in the eyes will cause irritation. Dusts may irritate the respiratory tract, skin and eyes. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media	Use any media suitable for the surrounding fires.
Unsuitable extinguishing media	Not applicable, non-combustible.
Specific hazards arising from the chemical	None known. The product itself does not burn.
Special protective equipment and precautions for firefighters	Material can be slippery when wet.
Fire fighting equipment/instructions	Use water spray to cool unopened containers. Material can be slippery when wet.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted. This material will not burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Material can be slippery when wet. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.
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Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

No special restrictions on storage with other products. Store in a dry area. Keep the container dry. Store in tightly closed container. Store in a well-ventilated place. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits**

US. OSHA Table Z-3 (29 CFR 1910.1000)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Applicable for industrial settings only. Wear dust-resistant safety goggles where there is danger of eye contact.

Skin protection**Hand protection**

Applicable for industrial settings only. Wear appropriate chemical resistant gloves. No protection is ordinarily required under normal conditions of use.

Other

Applicable for industrial settings only. Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection

Applicable for industrial settings only. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards

Not applicable.

General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Use good industrial hygiene practices in handling this material.

9. Physical and chemical properties**Appearance**

Solid.

Physical state	Solid.
Form	Tablet.
Color	Various.
Odor	None.
Odor threshold	Not applicable.
pH	8.5 - 11
Melting point/freezing point	> 842 °F (> 450 °C) / Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	This product is not flammable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	2.6 g/cm ³
Solubility(ies)	
Solubility (water)	< 0.9 mg/l
Partition coefficient (n-octanol/water)	Not applicable. Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	> 932 °F (> 500 °C)
Viscosity	Not applicable.
Viscosity temperature	Not applicable.
Other information	
Bulk density	0.9 - 1.4 g/cm ³
Explosive limit	Not applicable.
Explosive properties	Not explosive. Not explosive
Explosivity	Not applicable.
Flame extension	Not applicable.
Flammability	Not applicable.
Flammability (flash back)	Not applicable.
Flammability (Heat of combustion)	Not applicable.
Flammability (Train fire)	Not applicable.
Flammability class	Not applicable.
Flash point class	Not flammable
Molecular formula	UVCB Substance
Molecular weight	Not applicable.
Oxidizing properties	Not oxidizing. None.
Percent volatile	0 %
pH in aqueous solution	8.5 - 11
Specific gravity	Not applicable.
VOC	CARB 0 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Moisture. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials	None known.
Hazardous decomposition products	None.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust in the eyes will cause irritation.
Ingestion	Not classified.

Symptoms related to the physical, chemical and toxicological characteristics	Dusts may irritate the respiratory tract, skin and eyes. None known.
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Information on toxicological effects

Acute toxicity	Not classified. Not known.
Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Mild irritant to eyes (according to the modified Kay & Calandra criteria)

Respiratory or skin sensitization

Respiratory sensitization	Not classified.
Skin sensitization	Not classified.

Germ cell mutagenicity	Not classified.
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Carcinogenicity	In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. The product does not meet the criteria for classification as hazardous according to EC Regulation 1272/2008 and Directive 67/548/EC as amended. The product contains less than 1% w/w RCS (respirable crystalline silica).
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IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
BENTONITE (CAS 1302-78-9)		
Aquatic		
Fish	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)	19000 mg/l, 96 hours
Persistence and degradability	Not relevant for inorganic substances	
Bioaccumulative potential	Will not bio-accumulate.	
Mobility in soil	Bentonite is almost insoluble and thus presents a low mobility in most soils.	
Mobility in general	The product has poor water-solubility.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Store containers and offer for recycling of material when in accordance with the local regulations.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Toxic Substances Control Act (TSCA)	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	
Not regulated.	
CERCLA Hazardous Substance List (40 CFR 302.4)	
Not listed.	
SARA 304 Emergency release notification	
Not regulated.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
Not listed.	
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
SARA 302 Extremely hazardous substance	
Not listed.	
SARA 311/312 Hazardous chemical	No (Exempt)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	15-June-2018
Revision date	14-April-2020
Version #	16
Further information	This safety datasheet only contains information relating to safety and does not replace any product information or product specification.
HMIS® ratings	Health: 3* Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
List of abbreviations	SWERF = Size-Weighted Relevant Fine Fraction methodology is a scientific method developed to quantify the content of respirable particles within a bulk product. All details about the SWERF method are available at www.crystallinesilica.eu . UVCB = a substance of Unknown or Variable composition, Complex reaction products or Biological materials
References	For any information on literature references or toxicity/ecotoxicity studies, please contact the supplier.

Disclaimer

CETCO, an MTI Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The manufacturer expressly does not make any representations, warranties, or guarantees as to its accuracy, reliability or completeness nor assumes any liability, for its use. It is the user's responsibility to verify the suitability and completeness of such information for each particular use. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron 1000 THF

Product Use: Drive Train Fluid

Product Number(s): 226606, 278021

Synonyms: Chevron 1000 THF ISOCLEAN Certified

Company Identification

Chevron Canada Limited

1050 West Pender

Vancouver, BC V6E 3T4

Canada

www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

email : lubemsds@chevron.com

Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to Canada regulatory guidelines.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

Indication of any immediate medical attention and special treatment needed

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed. Keep out of the reach of children.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.

Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
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Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
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NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard Z94.4-2011 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown

Physical State: Liquid

Odor: Petroleum odor

Odor Threshold: No data available

pH: Not Applicable

Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)

Vapor Density (Air = 1): >1 (Estimated)

Initial Boiling Point: 315°C (599°F) (Estimated)

Solubility: Soluble in hydrocarbons; insoluble in water

Freezing Point: Not Applicable

Melting Point: No data available

Specific Gravity: 0.88 @ 15°C (59°F)

Density: 0.88 kg/l @ 15°C (59°F) (Typical)

Viscosity: 9.10 mm²/s @ 100°C (212°F) Minimum

Coefficient of Therm. Expansion / °F: No data available

Evaporation Rate: No data available

Decomposition temperature: No data available

Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) (Min)

Autoignition: No data available

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components. For additional information on the acute toxicity of the components, call the technical information center.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.

The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.S.M.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER TRANSPORT CANADA (TDG)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

UNDER ICAO

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1

01-2A=IARC Group 2A

01-2B=IARC Group 2B

35=WHMIS IDL

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: No revision information

Revision Date: February 13, 2017

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
WHMIS - Workplace Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the WHMIS 2015 by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet



SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Delo 400 LE Synthetic SAE 5W-40

Product Number(s): 803078

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Uses: Heavy Duty Motor Oil

1.3 Details of the supplier of the safety data sheet

Chevron Products UK Limited
1 Westferry Circus
Canary Wharf
London E14 4HA
United Kingdom
email : eumsds@chevron.com

1.4 Emergency telephone number

Transportation Emergency Response

Europe: 0044/(0)18 65 407333 and CHEMTREC: +1 703 527 3887

Health Emergency

Chevron Emergency Information Center: Located in the USA, international calls accepted 24 hours: +1 510 231 0623

Europe: 0044/(0)18 65 407333

Product Information

Product Information: FAX number: 0044/20 77 19 5171

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLP CLASSIFICATION:

Not classified as dangerous according to EU regulatory guidelines.

2.2 Label elements

Under the criteria of Regulation (EC) No 1272/2008 (CLP):

Not classified

- contains: Molybdenum polysulfide long chain alkyl dithiocarbamide complex. May produce an allergic reaction.

2.3 Other hazards

This product is not, or does not contain, a substance that is a potential PBT or a vPvB. This product is not, or does not contain, a substance that potentially has endocrine disrupting properties.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

3.2 Mixtures

This material is a mixture.

COMPONENTS	CAS NUMBER	EC NUMBER	REGISTRATION NUMBER	CLP CLASSIFICATION	AMOUNT
Distillates, hydrotreated heavy paraffinic	64742-54-7	265-157-1	01-2119484627-25	Asp. Tox. 1/H304	50 - 69 %weight
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	68649-12-7	614-695-9	01-2119527646-33	Asp. Tox. 1/H304	0 - 10 %weight
1-Decene homopolymer hydrogenated	68037-01-4	500-183-1	01-2119486452-34	Asp. Tox. 1/H304	0 - 10 %weight
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	265-158-7	01-2119487077-29	Asp. Tox. 1/H304	0 - 5 %weight
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	93819-94-4	298-577-9	01-2119543726-33	Aquatic Chronic 2/H411; Eye Dam. 1/H318; Skin Irrit. 2/H315	< 2 %weight
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Mixture	457-320-2	01-0000019337-66	Aquatic Chronic 3/H412; Skin Sens. 1B/H317; Skin Irrit. 2/H315	< 1 %weight
Phenol, dodecyl-, branched	121158-58-5	310-154-3	01-2119513207-49	Aquatic Acute 1/H400 [M=10]; Aquatic Chronic 1/H410 [M=10]; Eye Dam. 1/H318; Repr. 1B/H360 [C>=1.5]; Skin Corr. 1C/H314	< 0.25 %weight

The full text of all CLP H-statements is shown in Section 16.

In accordance with the Regulation (EC)No 1272/2008, Nota L, reference IP 346/92: "DMSO Extraction Method", we have determined that the base oils used in this preparation are not carcinogenic.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs. If exposure to hydrogen sulfide (H₂S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

IMMEDIATE SYMPTOMS AND HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to be harmful.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H₂S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

4.3 Indication of any immediate medical attention and special treatment needed

Note to Physicians: Administration of 100% oxygen and supportive care is the preferred treatment for poisoning by hydrogen sulfide gas. For additional information on H₂S, see Chevron SDS No. 301.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

5.2 Special hazards arising from the substance or mixture

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sulfur, Zinc, Phosphorus, Nitrogen .

5.3 Advice for firefighters

This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition in vicinity of spilled material. Refer to Sections 5 and 8 for more information.

6.2 Environmental precautions

Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

6.3 Methods and material for containment and cleaning up

Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil and dispose of in a manner consistent with applicable requirements. Place other contaminated materials in disposable containers and dispose of in a manner consistent with applicable requirements. Report spills to local authorities as appropriate or required.

6.4 Reference to other sections

See sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe gas. Wash thoroughly after handling.

Unusual Handling Hazards: Toxic quantities of hydrogen sulfide (H₂S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H₂S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H₂S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H₂S, the concentration should be measured by the use of fixed or portable devices.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

7.2 Conditions for safe storage, including any incompatibilities

Not Applicable

7.3 Specific end use(s): Heavy Duty Motor Oil

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

8.1 Control parameters

Occupational Exposure Limits: No applicable occupational exposure limits exist for this material or its components. Consult local authorities for appropriate values.

8.2 Exposure controls

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

Skin Protection: Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced. Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	120
Nitrile	0.8	240
Viton Butyl	0.3	240

Respiratory Protection: No respiratory protection is normally required. If material is heated and emits hydrogen sulfide, determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. For more information on hydrogen sulfide, see Chevron SDS No. 301. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

ENVIRONMENTAL EXPOSURE CONTROLS:

See relevant Community environmental protection legislation or the Annex, as applicable.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

9.1 Information on basic physical and chemical properties

Appearance

Color: Brown to yellow

Physical State: Liquid

Odor: Petroleum odor

Odor Threshold: No data available

pH: Not Applicable

Melting Point: No data available

Freezing Point: No data available

Initial Boiling Point: No data available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) (Minimum)

Evaporation Rate: No data available

Flammability (solid, gas): Not Applicable

Flammability (Explosive) Limits (% by volume in air):

Lower: Not Applicable Upper: Not Applicable

Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)

Vapor Density (Air = 1): >1

Density: 0.8590 kg/l @ 15°C (59°F) (Typical)

Solubility: Soluble in hydrocarbons; insoluble in water

Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: 14.60 mm²/s @ 100°C (212°F) (Typical)
Explosive Properties: No Data Available
Oxidising properties: No Data Available

9.2 Other Information: No Data Available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

10.2 Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions: Hazardous polymerization will not occur.

10.4 Conditions to Avoid: Not applicable

10.5 Incompatible materials to avoid: Not applicable

10.6 Hazardous decomposition products: Alkyl Mercaptans (Elevated temperatures), Hydrogen Sulfide (Elevated temperatures)

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information:

Serious Eye Damage/Irritation: The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Skin Corrosion/Irritation: The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Skin Sensitization: The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Dermal Toxicity: The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Toxicity Estimate (dermal): Not Applicable

Acute Oral Toxicity: The material is not considered an oral toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Toxicity Estimate (oral): Not Applicable

Acute Inhalation Toxicity: The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Toxicity Estimate (inhalation): Not Applicable

Germ Cell Mutagenicity: The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Carcinogenicity: The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Reproductive Toxicity: The material is not considered a reproductive toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Single Exposure: The material is not considered a target organ

toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Repeated Exposure: The material is not considered a target organ toxicant (repeated exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Aspiration Hazard: The material is not considered an aspiration hazard.

Component Information:

Serious Eye Damage/Irritation:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Test Result: Causes serious eye damage * read-across data from similar material
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Protocol: Eye Irritation Test Result: Causes serious eye damage

Skin Corrosion/Irritation:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Test Result: Causes skin irritation * read-across data from similar material
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Test Result: Causes skin irritation
Phenol, dodecyl-, branched	Protocol: OECD 404 - Dermal Irritation/Corrosion Test Result: Causes severe skin burns and eye damage * read-across data from similar material

Skin Sensitization:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Test Result: May cause allergic skin reaction
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

Acute Dermal Toxicity:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene,	Based on available data, the classification criteria are not met

trimer, hydrogenated	
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

Acute Oral Toxicity:

Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

Acute Inhalation Toxicity:

Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

Germ Cell Mutagenicity:

Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

Carcinogenicity:

Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met

Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

Reproductive Toxicity:

Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Protocol: OECD 415 - One-Generation Reproduction Toxicity Test Result: May damage fertility or the unborn child if ingested based on animal data
Phenol, dodecyl-, branched	Test Result: May damage fertility or the unborn child if absorbed through skin

Specific Target Organ Toxicity - Single Exposure:

Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

Specific Target Organ Toxicity - Repeated Exposure:

Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Based on available data, the classification criteria are not met
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Based on available data, the classification criteria are not met
Phenol, dodecyl-, branched	Based on available data, the classification criteria are not met

ADDITIONAL TOXICOLOGY INFORMATION:

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

11.2 Information on other hazards

No other hazards identified.

SECTION 12 ECOLOGICAL INFORMATION

Product Information:**12.1 Toxicity**

This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

12.2 Persistence and degradability

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

12.3 Bioaccumulative potential

Bioconcentration Factor: No Data Available

Octanol/Water Partition Coefficient: No data available

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This product is not, or does not contain, a substance that is a potential PBT or a vPvB.

12.6 Endocrine Disrupting Properties

This mixture does not contain any substances that are assessed as having endocrine disrupting properties.

12.7 Other adverse effects

No other adverse effects identified.

Component Information:

Acute Toxicity:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Confidential test data
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	No test data available
Phenol, dodecyl-, branched	Confidential test data
Phenol, dodecyl-, branched	Confidential test data

Long-term Toxicity:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	No test data available
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Confidential test data
Phenol, dodecyl-, branched	Confidential test data

Biodegradation:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met

1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Not applicable
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Test Result: Not readily biodegradable
Phenol, dodecyl-, branched	Protocol: OECD 301B-Modified Sturm Test Result: Not readily biodegradable Biodegradation: 25%W

Bioaccumulative Potential:	
Distillates, hydrotreated heavy paraffinic	Based on available data, the classification criteria are not met
1-Decene homopolymer hydrogenated	Based on available data, the classification criteria are not met
1-Decene, tetramer, mixed with 1-decene, trimer, hydrogenated	Based on available data, the classification criteria are not met
Distillates (petroleum), hydrotreated light paraffinic	Based on available data, the classification criteria are not met
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	No test data available
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	No test data available
Phenol, dodecyl-, branched	No test data available

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

In accordance with European Waste Catalogue (E.W.C.) the codification is the following: 13 02 06

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

ADR/RID

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

14.1 UN Number or ID Number: Not applicable

14.2 UN proper shipping name: Not applicable

14.3 Transport hazard class(es): Not applicable

14.4 Packing group: Not applicable

14.5 Environmental hazards: Not applicable

14.6 Special precautions for user: Not applicable

ICAO / IATA

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

14.1 UN Number or ID Number: Not applicable

14.2 UN proper shipping name: Not applicable

14.3 Transport hazard class(es): Not applicable

14.4 Packing group: Not applicable
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable

IMO / IMDG

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

14.1 UN Number or ID Number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es): Not applicable
14.4 Packing group: Not applicable
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable
14.7 Maritime Transport in Bulk according to IMO Instruments: Not applicable

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture REGULATORY LISTS SEARCHED:

01=EU Directive 76/769/EEC: Restrictions on the marketing and use of certain dangerous substances.
02=EU Directive 90/394/EEC: Carcinogens at work.
03=EU Directive 92/85/EEC: Pregnant or breastfeeding workers.
04=EU Directive 2012/18/EU: Seveso III.
05=EU Directive 98/24/EC: Chemical agents at work.
06=EU Directive 2004/37/EC: On the protection of workers.
07=EU Regulation EC No. 689/2008: Annex 1, Part 1.
08=EU Regulation EC No. 689/2008: Annex 1, Part 2.
09=EU Regulation EC No. 689/2008: Annex 1, Part 3.
10=EU Regulation EC No. 850/2004: Prohibiting and restricting persistent organic pollutants (POPs).
11=EU REACH, Annex XVII: Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixture & article.
12=EU REACH, Annex XIV: Authorization List or Candidate List of Substances of Very High Concern for Authorization (SVHC).

The following components of this material are found on the regulatory lists indicated.

Distillates, hydrotreated heavy paraffinic	03, 05, 11
Distillates (petroleum), hydrotreated light paraffinic	03, 05, 11
Phenol, dodecyl-, branched	03, 04, 05, 11, 12

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIIC (Australia), DSL (Canada), ENCS (Japan), KECI (Korea), NZIoC (New Zealand), TCSI (Taiwan), TSCA (United States).

15.2 Chemical safety assessment

No chemical safety assessment.

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: SECTION 01 - Health Emergency information was modified.
SECTION 02 - Supplemental Hazard information was modified.
SECTION 03 - Base Oil Registration Number List information was deleted.
SECTION 03 - Composition information was modified.
SECTION 05 - Special hazards arising from the substance or mixture information was modified.
SECTION 08 - Eye/Face Protection information was modified.
SECTION 08 - General Considerations information was modified.
SECTION 08 - Occupational Exposure Limit Table information was deleted.
SECTION 08 - Personal Protective Equipment List information was deleted.

SECTION 08 - Personal Protective Equipment information was added.
 SECTION 08 - Respiratory Protection information was modified.
 SECTION 08 - Skin Protection information was modified.
 SECTION 09 - Physical/Chemical Properties information was modified.
 SECTION 11 - Toxicological Information information was modified.
 SECTION 11.2 - Other Hazards information was added.
 SECTION 12 - Ecological Information information was modified.
 SECTION 12.6 - Endocrine Disrupting Properties information was added.
 SECTION 15 - Chemical Inventories information was modified.
 SECTION 15 - Regulatory Information information was added.
 SECTION 15 - Regulatory Information information was modified.
 SECTION 16 - Full Text of H-Statements information was modified.

Revision Date: January 31, 2023

Full text of CLP H-statements:

Asp. Tox. 1/H304; May be fatal if swallowed and enters airways
 Aquatic Acute 1/H400; Very toxic to aquatic life
 Aquatic Chronic 1/H410; Very toxic to aquatic life with long lasting effects
 Aquatic Chronic 2/H411; Toxic to aquatic life with long lasting effects
 Aquatic Chronic 3/H412; Harmful to aquatic life with long lasting effects
 Eye Dam. 1/H318; Causes serious eye damage
 Repr. 1B/H360; May damage fertility or the unborn child
 Skin Sens. 1/H317; May cause an allergic skin reaction
 Skin Corr. 1C/H314; Causes severe skin burns and eye damage
 Skin Irrit. 2/H315; Causes skin irritation

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
CVX - Chevron	CAS - Chemical Abstract Service Number
NQ - Not Quantifiable	

Prepared according to the EU Regulation 1907/2006 (as amended) by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

No Annex

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo ELC Antifreeze/Coolant - Premixed 50/50

Product Use: Heavy Duty Coolant

Product Number(s): 227811

Company Identification

Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency & Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

email : lubemsds@chevron.com

Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION:

- Reproductive toxicant (developmental): Category 2.
- Target organ toxicant (repeated exposure): Category 2.



Signal Word: Warning

Health Hazards:

- Suspected of damaging the unborn child.
- May cause damage to organs (Kidney) through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:

Prevention:

- Obtain special instructions before use.

- Do not handle until all safety precautions have been read and understood.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Use personal protective equipment as required.

Response:

- IF exposed or concerned: Get medical advice/attention.
- Get medical advice/attention if you feel unwell.

Storage:

- Store locked up.

Disposal:

- Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene glycol	107-21-1	45 - 50 %weight
Sodium 2-ethylhexanoate	19766-89-3	1 - 5 %weight
Tolyltriazole	29385-43-1	0.1 - < 1 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: May be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: Contains material that may cause harm to the unborn child if swallowed based on animal data.

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: Kidney See Section 11 for

additional information. Risk depends on duration and level of exposure.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry Chemical, CO₂, Aqueous Film Forming Foam (AFFF) or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sodium.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: Do not store in open or unlabeled containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

ENGINEERING CONTROLS:

Use general ventilation, local exhaust ventilation, or a combination of both.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

Skin Protection: Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced. Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	120
Neoprene	0.61	120
Nitrile	0.8	120
Polyvinyl Chloride (PVC)	1.1	120
Viton Butyl	0.3	120

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	Form	TWA	STEL	Ceiling	Notation
Ethylene glycol	ACGIH	Inhalable aerosol	--	10 mg/m3	--	--
Ethylene glycol	ACGIH	Vapor fraction	25 ppm	50 ppm	--	--
Ethylene glycol	ACGIH	--	0.01 ppm	--	--	Skin

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red

Physical State: Liquid

Odor: Faint or Mild

Odor Threshold: No data available

pH: 8 - 8.6; 67%volume @ 20°C (solution in water)

Vapor Pressure: No data available

Vapor Density (Air = 1): 2.10

Initial Boiling Point: 109°C (228.2°F)

Solubility: Soluble in water.

Freezing Point: -37°C (-34.6°F) (Max)

Melting Point: Not Applicable

Specific Gravity: 1.06 - 1.09

Density: 1.071 kg/l @ 15°C (59°F) (Min)

Viscosity: No data available

Coefficient of Therm. Expansion / °F: No data available

Evaporation Rate: No data available

Decomposition temperature: No data available

Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): Not Applicable

Flashpoint: Not Applicable

Autoignition: No data available

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for product components.

Skin Corrosion/Irritation: The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for product components.

Skin Sensitization: The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for product components.

Acute Oral Toxicity: The material is not considered an oral toxicant. The product has not been tested. The statement is based on evaluation of data for product components.

Acute Inhalation Toxicity: The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Carcinogenicity: The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Reproductive Toxicity: This material is suspected of damaging the unborn child. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Single Exposure: The material is not considered a target organ toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Repeated Exposure: This material may cause damage to organs through prolonged or repeated exposure. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Aspiration Hazard: The material is not considered an aspiration hazard.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.

The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PROPRIETARY ANTIFREEZE PREPARATION IN NON-BULK PACKAGING; NOT REGULATED FOR TRANSPORT UNDER 49 CFR

Additional Information: Bulk shipments containing a reportable quantity (RQ, 5000 pounds or more) of ethylene glycol in a single packaging are transported as hazardous material. The shipping description is: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHYLENE GLYCOL CONTAINS BITTERANT), 9, III, RQ (ETHYLENE GLYCOL)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER ICAO TI OR IATA DGR

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

Reproductive toxicity

Specific target organ toxicity (single or repeated exposure)

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	05=MA RTK
01-2A=IARC Group 2A	06=NJ RTK
01-2B=IARC Group 2B	07=PA RTK
02=NTP Carcinogen	08-1=TSCA 5(e)
03=EPCRA 313	08-2=TSCA 12(b)
04=CA Proposition 65	

The following components of this material are found on the regulatory lists indicated.
Ethylene glycol 03, 04, 05, 07

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIIIC (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: Refer to components listed in Section 3.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 1 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: SECTION 02 - Hazard Statements information was modified.

SECTION 02 - Health Classification information was modified.

SECTION 02 - Precautionary Statements information was modified.

SECTION 03 - Composition information was modified.

SECTION 04 - Delayed Health Effects - Target Organ(s) information was modified.

SECTION 08 - Engineering Control Measures information was modified.

SECTION 08 - Eye/Face Protection information was modified.

SECTION 08 - General Considerations information was modified.

SECTION 08 - Occupational Exposure Limit Table information was modified.

SECTION 08 - Personal Protective Equipment List information was deleted.

SECTION 08 - Personal Protective Equipment information was added.

SECTION 08 - Skin Protection information was modified.

SECTION 11 - Carcinogenicity information was added.

SECTION 11 - Germ Cell Mutagenicity information was added.

SECTION 11 - Reproductive Toxicity information was added.

SECTION 11 - Specific Target Organ Toxicity - Repeated Exposure information was added.

SECTION 11 - Specific Target Organ Toxicity - Single Exposure information was added.

SECTION 11 - Toxicological Information information was added.

SECTION 11 - Toxicological Information information was modified.

SECTION 15 - Regulatory Information information was modified.

Revision Date: February 23, 2023

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)

DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Clarity Hydraulic Oil AW 32, 46, 68, 100

Product Use: Hydraulic Oil

Product Number(s): 219612, 230340, 230341, 230342, 255702, 278022, 278023, 278024

Synonyms: Clarity Hydraulic Oil AW 32 ISOCLEAN Certified; Clarity Hydraulic Oil AW 46 ISOCLEAN Certified; Clarity Hydraulic Oil AW 68 ISOCLEAN Certified

Company Identification

Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency & Information Center: Located in the USA. International collect calls accepted.
(800) 231-0623 or (510) 231-0623

Product Information

email : lubemsds@chevron.com

Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION:

- Reproductive toxicant (fertility): Category 2.



Signal Word: Warning

Health Hazards:

- Suspected of damaging fertility.

PRECAUTIONARY STATEMENTS:

Prevention:

- Obtain special instructions before use.

- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.

Response:

- IF exposed or concerned: Get medical advice/attention.

Storage:

- Store locked up.

Disposal:

- Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight
N-Phenylbenzenamine, reaction products with 2,4,4-trimethylpentene	68411-46-1	0.1 - < 1 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: Swallowing this material may cause adverse reproductive effects based on animal data. See Section 11 for additional information. Risk depends on duration and level of exposure.

Indication of any immediate medical attention and special treatment needed

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wash thoroughly after handling.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

ENGINEERING CONTROLS:

Use general ventilation, local exhaust ventilation, or a combination of both.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

Skin Protection: Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced. Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	120
Neoprene	0.61	120
Nitrile	0.8	120
Polyvinyl Chloride (PVC)	1.1	120
Viton Butyl	0.3	120

Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	Form	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	--	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	--	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: No data available
Vapor Density (Air = 1): No data available
Initial Boiling Point: No data available
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Density: 0.8618 kg/l - 0.8694 kg/l @ 15°C (59°F) (Typical)
Viscosity: 32 mm²/s - 110 mm²/s @ 40°C (104°F)
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): Not Applicable

Flashpoint: (Cleveland Open Cup) 190 °C (374 °F) (Minimum)

Autoignition: No data available

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for product components.

Skin Corrosion/Irritation: The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for product components.

Skin Sensitization: The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for product components.

Acute Dermal Toxicity: The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The material is not considered an oral toxicant. The product has not been tested. The statement is based on evaluation of data for product components.

Acute Inhalation Toxicity: The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Carcinogenicity: The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Reproductive Toxicity: This material is suspected of damaging fertility. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Single Exposure: The material is not considered a target organ toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Repeated Exposure: The material is not considered a target organ toxicant (repeated exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Aspiration Hazard: The material is not considered an aspiration hazard.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.

The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

Reproductive toxicity

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	05=MA RTK
01-2A=IARC Group 2A	06=NJ RTK
01-2B=IARC Group 2B	07=PA RTK
02=NTP Carcinogen	08-1=TSCA 5(e)
03=EPCRA 313	08-2=TSCA 12(b)
04=CA Proposition 65	

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIIIC (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

One or more components is listed on ELINCS (European Union). All other components are listed or exempted from listing on EINECS.

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Hydraulic oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: SECTION 02 - Hazard Statements information was added.

SECTION 02 - Health Classification information was added.

SECTION 02 - Pictogram information was added.

SECTION 02 - Precautionary Statements information was added.

SECTION 02 - Signal Word information was added.

SECTION 03 - Composition information was modified.

SECTION 04 - Delayed Health Effects - Reproductive Toxicity information was modified.

SECTION 07 - Precautionary Measures information was modified.

SECTION 08 - Engineering Control Measures information was modified.

SECTION 08 - Personal Protective Equipment information was modified.

SECTION 11 - Reproductive Toxicity information was modified.

SECTION 12 - Ecological Information information was added.

SECTION 12 - Ecological Information information was deleted.

SECTION 15 - Chemical Inventories information was modified.

SECTION 15 - SARA 311 EPCRA Score information was added.

SECTION 15 - SARA 311 EPCRA Score information was deleted.

SECTION 16 - HMIS Rating information was modified.

Revision Date: November 04, 2022

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS System - Hazardous Materials Information System	NFPA (USA) - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA Administration - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person

receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Rando HDZ 15

Product Use: Hydraulic Oil

Product Number(s): 219300, 273282, 278064

Synonyms: Rando HDZ 15 ISOCLEAN Certified

Company Identification

Chevron Canada Limited

500 - 5th Ave. SW

Calgary, ALBERTA T2P 0L7

Canada

www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency & Information Center: Located in the USA. International collect calls accepted.
(800) 231-0623 or (510) 231-0623

Product Information

email : lubemsds@chevron.com

Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION:

- Aspiration toxicant: Category 1.



Signal Word: Danger

Health Hazards:

- May be fatal if swallowed and enters airways (H304).

PRECAUTIONARY STATEMENTS:

Response:

- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician (P301+P310).
- Do NOT induce vomiting (P331).

Storage:

- Store locked up (P405).

Disposal:

- Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	80 - 100 %wt/wt

Note that the actual concentration or concentration range of some or all of the above ingredients is considered confidential business information and is being withheld as permitted by WHMIS 2015.

SECTION 4 FIRST AID MEASURES**Description of first aid measures**

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed**IMMEDIATE HEALTH EFFECTS**

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Highly toxic; may be fatal if swallowed. Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

Indication of any immediate medical attention and special treatment needed

Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis. In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed. Do not taste or swallow. Wash thoroughly after handling.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal

protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

Skin Protection: Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced. Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	120
Nitrile	0.8	240
Viton Butyl	0.3	240

Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	Form	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	--	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard Z94.4-2011 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to amber

Physical State: Liquid

Odor: Petroleum odor

Odor Threshold: Not available

pH: Not Applicable

Vapor Pressure: Not available

Vapor Density (Air = 1): Not available

Initial Boiling Point: Not available
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: Not Applicable
Density: 0.8676 kg/l - 0.8895 kg/l @ 15°C (59°F)
Viscosity: 13.50 mm²/s - 19.80 mm²/s @ 40°C (104°F)
Coefficient of Therm. Expansion / °F: Not available
Evaporation Rate: Not available
Decomposition temperature: Not available
Octanol/Water Partition Coefficient: Not available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): Not Applicable

Flashpoint: (Cleveland Open Cup) 125 °C (257 °F) (Minimum)

Autoignition: Not available

Flammability (Explosive) Limits (% by volume in air): Lower: Not available Upper: Not available

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Skin Corrosion/Irritation: The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Skin Sensitization: The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Dermal Toxicity: The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The material is not considered an oral toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components. For additional information on the acute toxicity of the components, call the technical information center.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Carcinogenicity: The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Reproductive Toxicity: The material is not considered a reproductive toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Single Exposure:

The material is not considered a target organ toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Repeated Exposure: The material is not considered a target organ toxicant (repeated exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Aspiration Hazard: This material is considered an aspiration hazard based on the kinematic viscosity of the material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.

The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.S.M.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER TRANSPORT CANADA

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1

01-2A=IARC Group 2A

01-2B=IARC Group 2B

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIIC (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: SECTION 08 - Eye/Face Protection information was modified.

SECTION 08 - General Considerations information was modified.

SECTION 08 - Personal Protective Equipment List information was deleted.

SECTION 08 - Personal Protective Equipment information was added.

SECTION 08 - Skin Protection information was modified.

SECTION 11 - Toxicological Information information was modified.

Revision Date: October 04, 2022

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
WHMIS - Workplace Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the WHMIS 2015 by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Ursa Super Plus EC SAE 15W-40

Product Use: Heavy Duty Motor Oil

Product Number(s): 257005

Company Identification

Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency & Information Center: Located in the USA. International collect calls accepted.
(800) 231-0623 or (510) 231-0623

Product Information

email : lubemsds@chevron.com

Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the

air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs. If exposure to hydrogen sulfide (H₂S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H₂S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air concentrations of hydrogen sulfide gas greater than 100 ppm to be Immediately Dangerous to Life and Health (IDLH).

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed

Note to Physicians: Administration of 100% oxygen and supportive care is the preferred treatment for poisoning by hydrogen sulfide gas. For additional information on H₂S, see Chevron SDS No. 301.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Zinc, Sulfur, Phosphorus, Boron, Nitrogen.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: Do not breathe gas. Wash thoroughly after handling. Keep out of the reach of children.

Unusual Handling Hazards: Toxic quantities of hydrogen sulfide (H₂S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H₂S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H₂S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H₂S, the concentration should be measured by the use of fixed or portable devices.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

Respiratory Protection: No respiratory protection is normally required.

If material is heated and emits hydrogen sulfide, determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. For more information on hydrogen sulfide, see Chevron SDS No. 301. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure

limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	Form	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	--	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	--	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Brown to yellow

Physical State: Liquid

Odor: Petroleum odor

Odor Threshold: No data available

pH: Not Applicable

Vapor Pressure: No data available

Vapor Density (Air = 1): No data available

Initial Boiling Point: No data available

Solubility: Soluble in hydrocarbons; insoluble in water

Freezing Point: No data available

Melting Point: No data available

Density: 0.8797 kg/l @ 15°C (59°F) (Typical)

Viscosity: 15 mm²/s @ 100°C (212°F) (Typical)

Coefficient of Therm. Expansion / °F: No data available

Evaporation Rate: No data available

Decomposition temperature: No data available

Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): Not Applicable

Flashpoint: (Cleveland Open Cup) 215 °C (419 °F) (Minimum)

Autoignition: No data available

Flammability (Explosive) Limits (% by volume in air): Lower: No data available Upper: No data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: Alkyl Mercaptans (Elevated temperatures), Hydrogen Sulfide (Elevated temperatures)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION**ECOTOXICITY**

This material is not expected to be harmful to aquatic organisms.

The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: Not applicable

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	05=MA RTK
01-2A=IARC Group 2A	06=NJ RTK
01-2B=IARC Group 2B	07=PA RTK
02=NTP Carcinogen	08-1=TSCA 5(e)
03=EPCRA 313	08-2=TSCA 12(b)
04=CA Proposition 65	

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIIIC (Australia), DSL (Canada), ENCS (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

One or more components is listed on ELINCS (European Union). All other components are listed or exempted from listing on EINECS.

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Motor oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: SECTION 09 - Physical/Chemical Properties information was modified.
SECTION 15 - Chemical Inventories information was modified.
SECTION 15 - Regulatory Information information was added.

Revision Date: August 11, 2021

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.