

# **SPILL PREVENTION AND RESPONSE PLAN**

**FOR THE ASTON BAY PROPERTY  
(ALSO KNOWN AS THE STORM PROPERTY)  
NUNAVUT, CANADA**

Prepared For:



Prepared By:



**Effective April 2025**

## Amendments

| Date of Change | Plan Version Number | Section Number | Summary of Changes Made                                                                                                                                                                                                                |
|----------------|---------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 2020      | 1.0                 |                |                                                                                                                                                                                                                                        |
| April 2025     | 2.0                 |                | <i>Spill Prevention and Response Plan</i> has been combined with the <i>Fuel Management Plan</i>                                                                                                                                       |
|                |                     |                | <i>Material Safety Data Sheet (MSDS)</i> replaces with <i>Safety Data Sheet (SDS)</i>                                                                                                                                                  |
|                |                     | 1              | Subsection 1.2 <i>Purpose and Scope</i> moved to section 1. <i>Introduction</i>                                                                                                                                                        |
|                |                     |                | Subsection 1.1 <i>Contact Details</i> , 1.3 <i>Other Plans</i> , 1.4 <i>Project Description</i> removed                                                                                                                                |
|                |                     | 3              | <i>Preventative Measures</i> changed from subsection 1.6 to section 3. And is split into 3 subsections: 3.1 <i>Storage and Containment</i> , 3.2 <i>Fuel Transportation and Transfer</i> , and 3.3 <i>Sign, Labels and Inspections</i> |
|                |                     | 4.2            | <i>Table 4. Spill Reporting and Response Contact List</i> updated                                                                                                                                                                      |
|                |                     | 5.5.1          | Re-formatted to subsections: <i>On Land</i> , <i>On Water</i> , <i>On Ice and Snow</i> , and <i>Non-Standard Remediation Techniques</i> and the removal of <i>Burning</i> , with each subsection procedure described                   |
|                |                     | 5.5.4          | Additional subsection <i>Loss of External Load</i> . Describes the procedure if hazardous material is lost from aircraft                                                                                                               |
|                |                     | Appendix B     | changed from <i>MSDS</i> to <i>Fuel Inspection Records</i>                                                                                                                                                                             |
|                |                     | Appendix C     | changed from <i>Fuel Inspection Records</i> to <i>NT-NU Spill Report Form</i>                                                                                                                                                          |
|                |                     | Appendix D     | changed from <i>NT-NU Spill Report Form</i> to <i>SDS</i> . Additional <i>SDS Table of Contents</i> , and <i>SDS</i> list alphabetized                                                                                                 |

## Table of Contents

|        |                                                                     |    |
|--------|---------------------------------------------------------------------|----|
| 1.     | Introduction .....                                                  | 1  |
| 2.     | Hazardous Materials On-Site.....                                    | 2  |
| 3.     | Preventative Measures .....                                         | 3  |
| 3.1.   | Storage and Containment .....                                       | 3  |
| 3.2.   | Fuel Transportation and Transfer.....                               | 4  |
| 3.3.   | Sign, Labels, and Inspections .....                                 | 5  |
| 4.     | Response Organization .....                                         | 6  |
| 4.1.   | Basic Steps .....                                                   | 6  |
| 4.2.   | Chain of Command .....                                              | 6  |
| 5.     | Action Plan.....                                                    | 7  |
| 5.1.   | Potential Spill Hazards.....                                        | 7  |
| 5.2.   | Potential Environmental Impacts .....                               | 8  |
| 5.3.   | Initial Actions .....                                               | 9  |
| 5.4.   | Secondary Actions.....                                              | 9  |
| 5.5.   | Containment Procedures .....                                        | 9  |
| 5.5.1. | Diesel, Jet Fuel, Gasoline, Hydraulic Oil and Lubricating Oil ..... | 10 |
| 5.5.2. | Propane.....                                                        | 11 |
| 5.5.3. | Chemical Spills .....                                               | 12 |
| 5.5.4. | Loss of External Load.....                                          | 12 |
| 6.     | Resource Inventory.....                                             | 13 |
| 6.1.   | On-site Resources.....                                              | 13 |
| 7.     | Training Program .....                                              | 14 |
| 7.1.   | On-site Personnel.....                                              | 14 |

### Tables

|                                                                                        |   |
|----------------------------------------------------------------------------------------|---|
| Table 1: Inventory of fuels stored off-season at Storm Camp (2024). .....              | 2 |
| Table 2: Inventory of fuels stored off-season at the Marine Landing Area (2024). ..... | 2 |
| Table 3: Inventory of fuels stored during operations at Storm Camp.....                | 3 |
| Table 4: Spill reporting and response contact list. ....                               | 7 |

### Appendices

|                                           |    |
|-------------------------------------------|----|
| Appendix A: Figures .....                 | 15 |
| Appendix B: NT-NU Spill Report Form ..... | 18 |
| Appendix C: SDS.....                      | 21 |

## 1. Introduction

This Spill Prevention and Response Plan (“SPRP”) applies to mineral exploration activities conducted by, or on behalf of, Aston Bay Holdings Ltd. (“Aston Bay”) at the Aston Bay Property (the “Property” or the “Project,” also known as the “Storm Property” or “Storm Project”), Somerset Island, Nunavut. This SPRP will come into effect April 2025, pending approval. Copies and updates to this plan may be obtained by contacting Aston Bay.

The SPRP provides straightforward procedures for the storage and handling of fuels and other hazardous materials for the purpose of reducing the risk of environmental contamination and to ensure the health and safety of all personnel from the accidental release of deleterious materials. If an accidental release should occur, the SPRP provides clear response procedures. The goals of the Spill Prevention and Response Plan are to:

- Promote safe handling and use of potentially hazardous materials;
- Promote effective and safe recovery of spilled, potentially hazardous materials;
- Reduce environmental impacts of spills to water and land;
- Identify responsibilities and reporting procedures for spill events;
- Provide site specific information about the facilities and contingencies in place;
- Provide readily accessible emergency information for clean-up crews, management, and government agencies;
- Comply with federal and territorial government regulations and guidelines pertaining to the preparation of a Spill Prevention and Response Plan and notification requirements in the event of a spill
- Comply with federal and territorial government regulations and guidelines pertaining to transportation, storage, handling and disposal of any type of fuel.

## 2. Hazardous Materials On-Site

A small fuel cache remains at Storm Camp (Table 1), with a larger fuel cache remaining at the Marine Landing Area (Table 2). All remaining fuel is stored in covered secondary containment berms. Jet fuel is stored separately from diesel and gas. Remaining propane cylinders are stored upright and were secured to one of the plywood buildings or inside a secure building. Inventory remains from 2024 for future exploration programs.

**Table 1: Inventory of fuels stored off-season at Storm Camp (2024).**

| Material         | Container       | Quantity on Site |
|------------------|-----------------|------------------|
| Diesel           | 205 L Drum      | 29 Drums         |
| Jet Fuel (Jet A) | 205 L Drum      | 17 Drums         |
| Gasoline         | 205 L Drum      | 1 Drum           |
| Propane          | 100 lb Cylinder | 10 Cylinders     |

**Table 2: Inventory of fuels stored off-season at the Marine Landing Area (2024).**

| Material         | Container  | Quantity on Site |
|------------------|------------|------------------|
| Diesel           | 205 L Drum | 252 Drums        |
| Jet Fuel (Jet A) | 205 L Drum | 500 Drums        |

During operations, a main fuel cache area will be established adjacent to Storm Camp at approximately 73° 39' 23" N; 94° 26' 58" W. Diesel, jet fuel, gasoline and propane will be stored in separate caches in the same general area. A temporary cache will be established adjacent to the airstrip, approximately 600 metres west of Storm Camp, to accommodate fuel delivered by Twin Otter prior to moving it to camp. Small fuel caches of up to 4,000 L will be established at drill sites while drilling is in progress. These temporary caches will store small amounts of diesel and propane, as needed for drilling. There may be temporary fuel caches created to support drilling and exploration in areas far from camp.

Other hazardous materials found on site may include small quantities of various lubricants/oil/grease for drilling and maintenance of motorized equipment, cleaning products, and waste oil. Products, such as cleaning supplies, typically come in 1 litre to 4 litre jugs and will be stored in their original containers and stored inside a plywood building or Weatherport tent. Products, such as motor oil and hydraulic oil, typically come in a pail, up to 5 gallons, and will be stored in their original container and within secondary containment with a spill kit nearby. All batteries will be protected from damage by fastening them securely into various power equipment and stored safely inside a secure building when not in use.

At the end of the 2024 season, a temporary fuel cache was established at the Marine Landing Area, located at approximately 73°41'06" N; 94°43'50" W. Relocation of the fuel to Storm Camp will be completed during the 2025 season.

Diesel, jet fuel, and gasoline will be stored in 205 litre (L) steel drums. Propane will be stored in 100-pound (lb) cylinders equipped with pressure relief valves. Waste oil and fuel will be sealed in 205 L steel drums and removed from camp for proper disposal. Drums will be stored in an organized manner with the bungs at the 9 o'clock and 3 o'clock positions. All empty fuel drums and waste fuel drums were backhauled to Resolute Bay for cleaning and storage/disposal on an ongoing basis.

**Table 3: Inventory of fuels stored during operations at Storm Camp.**

| Material         | Container       | Proposed on Site |
|------------------|-----------------|------------------|
| Diesel           | 205 L Drum      | 1,000 Drums      |
| Jet Fuel (Jet A) | 205 L Drum      | 1,000 Drums      |
| Gasoline         | 205 L Drum      | 250 Drums        |
| Propane          | 100 lb Cylinder | 250 Cylinders    |

Safety Data Sheets for each of the hazardous materials listed in Table 3 as well as possible oils and greases, cleaning products and drill additives are included in Appendix D.

### **3. Preventative Measures**

#### **3.1. Storage and Containment**

All fuels and other hazardous materials, regardless of size, will be stored within "Arctic Insta-Berms", or similar products, for secondary containment. These types of berms utilize chemical and fire-resistant fabric (generally polyurethane coated nylon or vinyl coated polyester material) designed for extreme arctic temperatures and puncture resistance. "RainDrain" or similar hydrocarbon filtration systems will be used to safely remove any water collected inside the berms, and as a safeguard against any potential overflows of contaminated water. Portable berms will be used at the drill sites to hold small amounts of diesel (2-3 drums each). Secondary containment berms will be capable to holding 100% of the capacity of the largest stored reservoir, plus 10% of the capacity of the largest stored reservoir.

Fuel drums will be stored on their sides in organized rows with the bungs in the three o'clock and nine o'clock positions. Drums will be stood upright 1 to 2 days prior to use in order to allow any contaminants to settle. Daily visual inspections of all drums will be conducted to identify any damaged or leaking containers. More detailed weekly inspections will also be conducted, and the

findings reported in the “Weekly Fuel Inspection Record” (Appendix B). In the event that a leak is discovered, the substance will either be used immediately or transferred to an undamaged container.

Regular inspections of all drums, tanks, valves, regulators, hoses and maintenance of motorized equipment will also be performed to avoid any fluid leaks onto the land. Secondary containment structures will be cleared of snow and water on a regular basis. Should any accumulated melt or storm water become contaminated, it is to be contained, tested and if needed, treated prior to requesting approval to discharge. Empty drums are to be removed from site at regular intervals during operations and at seasonal shutdown.

Propane cylinders will be equipped with a pressure release valve that opens to prevent a buildup of excessive internal pressure. Labels, showing data such as date of manufacture and re-testing dates, will be applied to the collar of the cylinders. Propane is non-toxic and will not contaminate soil; therefore, secondary containment berms are not required for storage. All propane cylinders will be secured and stored upright for safety and stored away from any sources of ignition.

All chemical and fuel storage and fuel transfer areas will be located a minimum distance of 31 m from the ordinary high-water mark of any water body. Spill kits and firefighting equipment will be strategically placed and easily identifiable with clear signage and located near where any hazardous materials are stored or transferred, at all drill sites, in the helicopter(s), and at other locations throughout the camp. Section 6.1 provides details on spill kit contents.

Camp grey water will be piped to a sump away from the kitchen, office, and sleeping quarters and a minimum of 31 m from the ordinary high-water mark of any water body. The sump and pipe will be inspected at regular intervals for leaks or overflow.

### **3.2. Fuel Transportation and Transfer**

All fuel will be mobilized to camp by fixed wing aircraft, or via the overland winter trail. Drums will be inspected prior to being transferred to camp or the laydown area to identify any defects (i.e. torn, missing, or twisted gaskets, etc.); a second inspection will be performed upon arrival at camp or laydown. Fuel is to be transported to the Property in accordance with all applicable legislation including but not limited to the Transportation of Dangerous Good Regulations. Fuel drums will be slung by helicopter as needed to drill sites. All drums will be inspected for leaks and defects prior to and after helicopter transport. Empty drums will be removed from site for proper disposal. Fixed wing aircraft will be equipped with tundra tires, and capable of landing on short unimproved runways, or equipped with skis for ice strips when necessary. Any ground disturbance from the construction of airstrips will be mitigated at the closure of camp.

Any equipment or fuel drums being transported via the overland winter trail between the marine landing area and the camp or laydown area will be inspected prior to loading and travel. Drums will be loaded standing vertically with bungs up to prevent rolling and will be secured in place with ratchet straps. A spill kit will accompany every piece of equipment or shipment of fuel. Drivers will stay on the main trail to ensure safe ice thickness and the smoothest drive possible. Equipment drivers will have satellite phones and InReach devices to maintain communication in the event of a spill.

Electric or hand wobble pumps equipped with filtration devices will be used for the transfer of diesel, jet fuel, and gasoline from their storage containers directly to their end-use fuel tanks. Portable drip trays or mini-berms will be used to mitigate the risk of any spillage, and fully stocked spill kits will be available at all refueling stations. Proper grounding procedures will always be used during fuel transfer while using an electric pump. Cigarette smoking, sparks, open flames, and any potential ignition sources are prohibited within 100 m of any fuel storage site and at all times during fuel transfer.

When transferring fuel, the drum will be stood upright and blocked with the high side at 12 o'clock, the bung at 3 o'clock, and the vent at 9 o'clock to prevent water or dirty fuel from reaching the openings. The standpipe will be placed in a manner so that it will not be able to reach the lowest point in the drum, thus ensuring any contaminants will remain in the drum.

Any personnel who are required to handle, store or prepare fuel for transport will receive appropriate training, including instruction in the operation and maintenance of fuel transfer and storage equipment. All on-site personnel will receive training as outlined in the Aston Bay SPRP. Any personnel required to handle, prepare or transport fuel or hazardous material are required to have a valid First Aid, WHMIS and Transportation of Dangerous Goods ("TDG") training that meets or exceeds the International Civil Aviation Organization (ICAO) training requirements.

### **3.3. Sign, Labels, and Inspections**

All hazardous material, including drummed fuel, will be clearly labeled in accordance with the Workplace Hazardous Materials Information System ("WHMIS") and other applicable legislation. Labels will include, but not limited to, the type of fuel, safe handling procedures, reference to Safety Data Sheets ("SDS"), company name, and the date of delivery to site. Signs with the same information, along with SDS for each fuel type will be posted at each fuel storage or transfer site. "No Smoking" signs will be posted at each fuel cache, drill site, and fuel transfer area.

As previously stated, all fuel drums will be inspected upon arrival at camp, and before and after helicopter transport. Monitoring of drums, fuel transfer equipment, and fuel caches will be

ongoing during the exploration program. Daily inspections will be conducted to identify any damaged or leaking containers, and the findings reported in the “Daily Fuel Inspection Record” (Appendix B). Any damage discovered during or as a result of transport will also be recorded. Any leaks or spills will be reported and contained as outlined in the Aston Bay Property SPRP.

All motorized vehicles, including ATVs and snowmobiles, will be regularly inspected and maintained for any leaks, drips or cracked hoses. The motorized vehicles will be parked within a prescribed area with a drip tray located underneath, when not in use. Maintenance on said vehicles will be completed within the parking area or near the tool shed, with the use of drip trays and/or absorbent mats.

The Project Supervisor is responsible for overseeing the monitoring and inspection program and keeping a detailed inventory of all fuel and other hazardous materials on site.

#### **4. Response Organization**

In the case of a spill or environmental emergency, an immediate, safe, and environmentally responsible reaction is required. All spills at the Aston Bay Property will be reported.

##### **4.1. Basic Steps**

The basic steps of the response plan are as follows:

1. Ensure the safety of all persons at all times.
2. Identify and find the spilled substance and its source, and if possible, stop the process or shut off the source.
3. Inform the on-site coordinator or their designate at once, so that immediate actions may be taken, including notification of the 24-Hour Spill Report Line and a CIRNAC Water Resources Officer.
4. Contain the spill or environmental hazard.
5. Implement any necessary cleanup/remedial action.

##### **4.2. Chain of Command**

1. Immediately notify the 24-Hour Spill Report Line at 867-920-8130, the CIRNAC in Nunavut at 1-800-567-9604, the Manager of Field Operations at 867-975-4295, and Environment Canada at 867-920-8130.
2. A Spill Report Form (Appendix C) is filled out as completely as possible, before or after contacting the 24-Hour Spill Report Line. Guidelines for completing the spill report form can be found following the form in Appendix C.

3. Notify Project Supervisors Thomas Ullrich (Aston Bay) at 416-456-3516 or Chris Livingstone (APEX Geoscience Ltd.) at 778-847-7450.

**Table 4: Spill reporting and response contact list.**

| Contact                                                                            | Telephone Number |
|------------------------------------------------------------------------------------|------------------|
| Government of Nunavut Department of Environment 24 Hour Spill Report Line          | 1-867-920-8130   |
| Thomas Ullrich, Project Supervisor<br>COO & Executive VP (Aston Bay Holdings Ltd.) | 1-416-456-3516   |
| Chris Livingstone, Project Supervisor<br>Project Geologist (APEX Geoscience Ltd.)  | 1-778-847-7450   |
| CIRNAC Resource Management Officer (Iqaluit)                                       | 1-867-975-4296   |
| Government of Nunavut Department of Environment                                    | 1-867-975-7700   |
| DFO (Central and Arctic Branch)                                                    | 1-867-979-8039   |
| Nunavut Water Board                                                                | 1-867-360-6338   |
| RCMP – Resolute Bay (non-emergency)                                                | 1-867-252-0123   |
| Resolute Bay Health Centre                                                         | 1-867-252-3844   |
| Qikiqtani (Baffin) Regional Hospital                                               | 1-867-975-8600   |
| Medevac (Keewatin Air, Qikiqtani Office)                                           | 1-867-979-3970   |

## 5. Action Plan

### 5.1. Potential Spill Hazards

Even with appropriate precautions, the potential for spills remains when dealing with fuel and other hazardous materials. The following is a list of potential spill hazards:

- 205 L drums holding diesel, jet fuel, gasoline, waste fuels, and waste oils have the potential to leak or rupture due to mishandling. Older or refilled drums are more prone to leaking around the bungs if the seals are not properly maintained.
- Propane cylinders may leak from the valves or rupture as a result of mishandling.
- Vehicles and other motorized equipment may experience fuel or oil leaks as a result of malfunctions, impacts, lack of maintenance, improper storage, or faulty operation.
- Leaks or spills may occur during fuel transfer due to over-fueling, improper fueling procedure, or faulty equipment.
- The risk of rupturing a fuel container increases during transport due to the increased amount of handling involved.

Regular inspection and maintenance of fuel caches, motorized equipment, and fuel transfer equipment will help to mitigate the risks outlined above. Training for proper maintenance of motorized equipment, fuel transfer and handling procedures, and spill response training will be provided to applicable personnel.

## 5.2. Potential Environmental Impacts

All hazardous materials pose a threat to the environment if spilled. Overall, spills in the winter are usually lower impact as snow is a natural sorbent and ice forms a barrier against soil or water contamination. The following list outlines potential environmental impacts of hazardous materials stored on site:

- Gasoline may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Gasoline volatilizes quickly.
- Diesel may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Diesel burns slowly and thus the risk to the environment is reduced during recovery as it can be more readily contained compared to more volatile fuels.
- Jet fuel may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Jet fuel volatilizes relatively quickly.
- Propane may be harmful to wildlife and the surrounding environment, and it has the potential to accumulate in the environment. Propane is extremely volatile and is the most flammable material stored on site. Impacts to the immediate surrounding environment are of greatest concern.
- Oils and greases may be harmful to wildlife and aquatic life. They are not readily biodegradable and have the potential for bioaccumulation in the environment.

Take action only if safety permits!

**NEVER SMOKE** when dealing with spills!

### 5.3. Initial Actions

- Ensure safety of all personnel, beginning with those nearest to the scene.
- Assess spill hazards and risks.
- Identify and find the spill substance and its source.
- Notify the supervisor and request assistance if needed.
- Assess whether or not the spill can be readily stopped.
- Contain or stop the spill.

### 5.4. Secondary Actions

- Determine the status of the spill event.
- If necessary, pump fuel from a damaged or leaking tank or drum into a refuge container.
- Notify the 24-Hour Spill Report Line.
- Complete and fax a copy of the Spill Report Form (Appendix C).
- Notify permitting authorities.
- If possible, resume cleanup and containment.

### 5.5. Containment Procedures

- Ensure it is safe to initiate containment procedures.
- Always use applicable safety equipment (gloves, goggles/safety glasses, masks/respirators, etc.) before attempting to contain a spill.
- Initiate spill containment by first determining what will be affected by the spill.
- Assess speed and direction of the spill and the cause of movement (water, wind, slope).
- Determine the best location for containing the spill, avoiding water bodies.
- Have a contingency plan ready in case spill worsens beyond control or if other factors impede containment efforts.

### 5.5.1. Diesel, Jet Fuel, Gasoline, Hydraulic Oil and Lubricating Oil

Take action only if safety permits – stop the source flow if safe to do so and eliminate all ignition sources. **NEVER SMOKE** when dealing with these types of spill.

#### ***On Land***

- Build a containment berm or dyke using soil material or snow, down slope of the seepage or spill to prevent the spill from reaching open water.
- Place a plastic tarp at the foot of the berm to allow the fuel to pool for collection and removal. If a large volume of product has spilled, pump the liquid into empty drums for sealing and disposal.
- Remove the spill by using absorbent pads or excavating the soil, gravel or snow. Remove spill splashed on vegetation using particulate absorbent material.
- Contact regulator agencies for approval before commencing removal of any contaminated material. Contaminated soil and saturated material will be placed in empty drums or containment bags and shipped from the site for proper disposal.

#### ***On Water***

- Deploy hydrophobic (water repellent) absorbent pads on the water to capture small spills. Hydrophobic pads readily absorb hydrocarbons. Alternatively, an ultra-dry absorbent designed for use on water-based spills may be deployed.
- For large spills, ready several empty drums to act as a refuge container for the spill.
- Contain spill as close to the release point as possible.
- Use containment booms to capture spill for recovery and to prevent the spill from spreading. Use absorbent pads to capture small spills.
- Use skimmer for large spills. Once captured, the product should be pumped to the empty fuel drums and prepared for proper disposal.

#### ***On Ice and Snow***

- Build a containment berm or dyke around the spill using snow.
- Remove spill using absorbent pads or particulate sorbent material.
- The contaminated ice and snow must be scraped and shoveled into plastic buckets with lids, 205 L drums, and/or containment bags.

### ***Non-Standard Remediation Techniques***

On the advice, discretion and approval of land use inspectors and the permitting agencies, non-standard remediation techniques may be used to clean up spills where collection of the contaminated materials is not feasible. Before any non-standard remediation techniques are utilized, the advice of the land use inspectors, permitting agencies, and spill-report authorities will be sought, and proper authorizations will be obtained.

#### **5.5.1.5 Storage, Transfer and Disposal**

In most cases, spill cleanups are initiated at the far end of the spill and contained moving toward the centre of the spill. Sorbent socks and pads are generally used for small spill clean-up. A pump with attached fuel transfer hose can 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 can be used if deemed necessary given space and time constraints.

Used sorbent materials are to be immediately placed in plastic bags, and later in sealed containers for future disposal. All materials mentioned in this section are available in the spill kits located at camp, drill sites and fuel caches. Following clean up, any tools or equipment used will be properly washed and decontaminated or replaced if this is not possible.

All contaminated soil, water, ice, snow, and supplies used for clean-up will be stored in sealed, labeled containers and removed from site for proper disposal at an approved facility. The movement of hazardous wastes will be monitored by the Nunavut Department of Environment and tracked with a Waste Manifest during all movements and transfers.

#### **5.5.2. Propane**

It is not possible to contain vapors when released. Water spray can be used to knock down vapors if no chance of ignition exists. Personnel should leave the area immediately unless a small leak is stopped immediately following detection. Personnel should avoid touching release points on damaged containers as frost may form rapidly. If tanks are damaged, do not attempt a recovery – allow gas to disperse. Keep clear of tank ends. Small fires can be extinguished with a dry chemical CO<sub>2</sub> fire extinguisher.

##### **5.5.2.1 Containment of Spills on Land**

Do not attempt to contain propane release.

##### **5.5.2.2 Containment of Spills on Water**

Do not attempt to contain propane release.

### 5.5.2.3 Containment of Spills on Ice

Do not attempt to contain propane release.

### 5.5.2.4 Containment of Spills on Snow

Do not attempt to contain propane release.

### 5.5.2.5 Storage, Transfer and Disposal

It is not possible to contain released vapors. Contaminated materials and damaged containers will be sent to an approved facility for disposal. The movement of hazardous wastes will be monitored by the Nunavut Department of Environment and tracked with a Waste Manifest during all movements and transfers.

### 5.5.3. Chemical Spills

- Assess hazard of spilled material; **REFER TO SDS**. Members of the emergency response team who are vulnerable to certain contaminants should be replaced with alternatives (e.g. Asthmatics where fumes or airborne particles are evident).
- Assemble applicable safety equipment (gloves, goggles/safety glasses, masks/respirators, etc.) before responding to a spill.
- Apply absorbents to soak up liquids.
- Solid chemicals such as dusts or powders should be covered with plastic sheeting to prevent disbursement by wind or animal.
- Neutralize acids or caustics. Place spilled material and contaminated clean-up supplies in empty refuge drums and seal for disposal.
- Contact the 24-Hour Spill Report Line.
- Proceed with clean-up in correspondence with the SDS and steps in Section 5.

### 5.5.4. Loss of External Load

The loss of external loads of fuel, oil or chemicals from aircraft may results in the failure of the container that held the product. Immediate response is required.

- Mark the loss load with GPS coordinates and relay to the base of operators immediately.
- Note whether the load was dropped onto soil, rocks, water or snow and from what heights. Determine if the container failed.
- Base operations will contact the 24-Hour Spill Line.
- Administer appropriate procedures for Spills on Land, Water, Ice or Snow.

## **6. Resource Inventory**

Spill kits and firefighting equipment will be easily identifiable with clear signage, and strategically located near where any hazardous materials are stored or transferred, at all fuel caches, drill sites, in the helicopter(s), and at numerous locations throughout the camp.

### **6.1. On-site Resources**

#### **Spill kits will be in bright yellow 231 L rigid plastic containers and will contain:**

- 50 15"x19" oil sorbent pads
- 8 18"x18" pillows
- 8 3"x12' sorbent socks
- 1 pair splash goggles
- 5 disposal bags
- 1 pair Nitrile gloves
- 1 Emergency Handbook
- 1 231 L overpack drum
- 1 checklist of required items
- 1 laminated copy of the Aston Bay Property Spill Prevention and Response Plan

#### **Other equipment on site:**

- 2 38"x144' rolls absorbent matting
- 200 16"x20" enviro matting
- 10 booms
- 5 large tarps
- 5 shovels (minimum)
- 3 pickaxes (minimum)
- 3 rakes (minimum)
- 10 empty 205 L drums (minimum)

#### **Spill kits will be located:**

- Main fuel cache
- Helicopter pad / airstrip
- Drill fuel caches
- Generator shack
- Incinerator
- Additional spill kits around camp

## 7. Training Program

**7.1. On-site Personnel** All on-site personnel will undergo an orientation and training program on initial spill response procedures and be familiar with spill reporting requirements. Fuel handling personnel will receive additional training in safe operation of fuel transfer equipment, spill prevention techniques and spill response. The on-site Project Supervisor will keep detailed training records.

A designated Emergency Response Team (“ERT”) made up of on-site personnel will be established. Members of the ERT will receive training in emergency spill response. ERT members will be on-site at all times and will be made aware of the available resources and locations of spill kits.

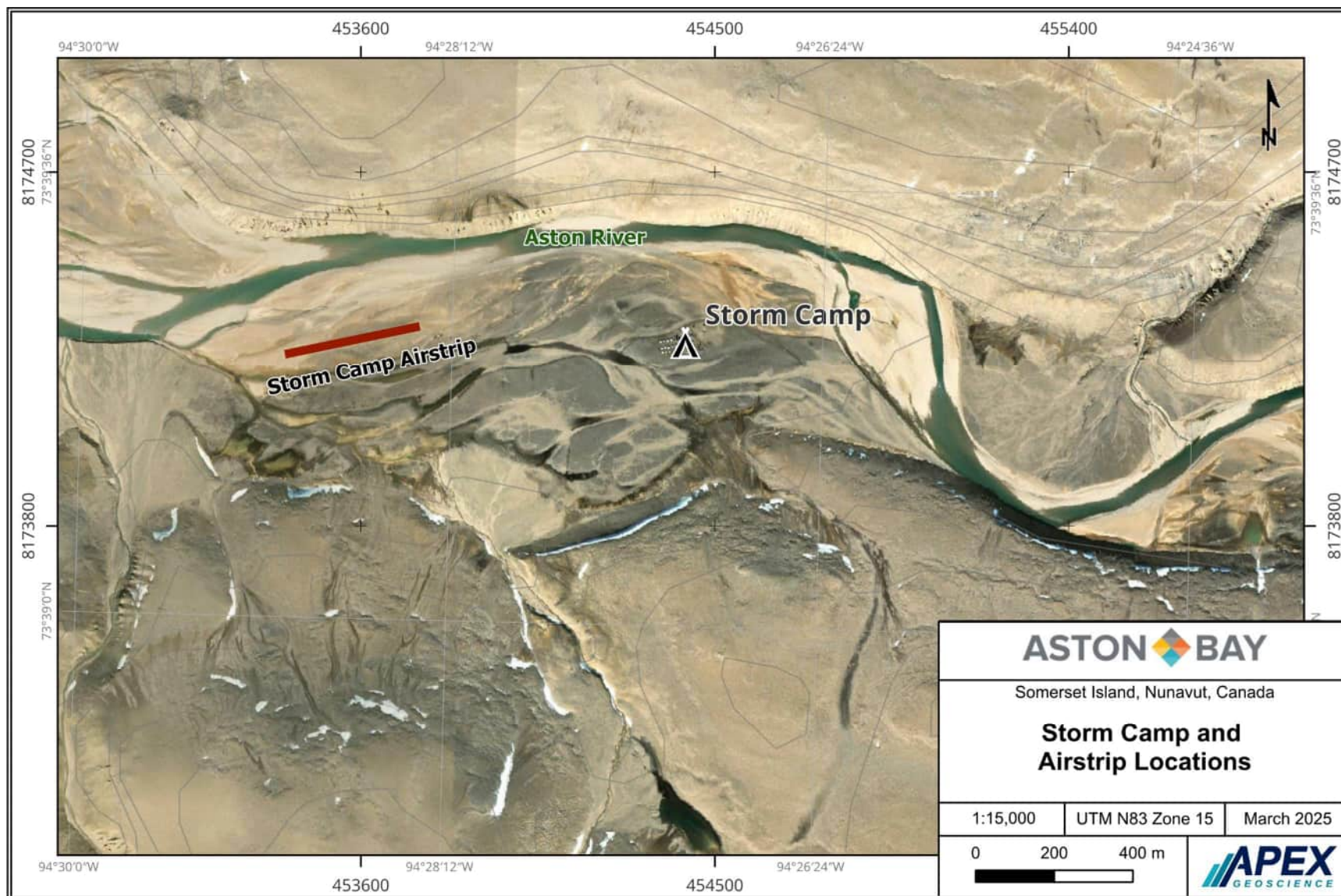
Training will include, but not be limited, to the following:

- Review of the SPRP and ERT member responsibilities.
- Location of fuel and chemical storage sites.
- Causes and possible effects of spills.
- Use of on and off-site spill response resources.
- Exercises in spill response and spill kit use.
- Distribution of up-to-date copies of the SPRP and emergency contact lists.

All on-site personnel, including contractors, that handle and/or transport fuel or hazardous material are required to have a valid First Aid, WHMIS, and Transportation of Dangerous Goods (“TDG”) training that meets or exceeds the International Civil Aviation Organization (ICAO) training requirements. Supervisors are required to have advanced first aid training, as well as a valid Occupational Health and Safety (“OHS”) Supervisor’s Certificate.

## Appendix A: Figures

Figure 1. Storm Camp and airstrip locations.





## **Appendix B: NT-NU 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](mailto:spills@gov.nt.ca)

REPORT LINE USE ONLY

|                                                                                                                                                                                                                                                    |                                                                                                                                          |                              |          |                                                                                                             |                                      |                                                                                                                                 |                                             |                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------|-------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------|
| A                                                                                                                                                                                                                                                  | REPORT DATE: MONTH - DAY - YEAR                                                                                                          |                              |          | REPORT TIME                                                                                                 |                                      | <input type="checkbox"/> ORIGINAL SPILL REPORT, OR                                                                              |                                             | REPORT NUMBER<br>_____ |
|                                                                                                                                                                                                                                                    | OCCURRENCE DATE: MONTH - DAY - YEAR                                                                                                      |                              |          | OCCURRENCE TIME                                                                                             |                                      | <input type="checkbox"/> UPDATE # _____<br>TO THE ORIGINAL SPILL REPORT                                                         |                                             |                        |
| C                                                                                                                                                                                                                                                  | LAND USE PERMIT NUMBER (IF APPLICABLE)                                                                                                   |                              |          |                                                                                                             | WATER LICENCE NUMBER (IF APPLICABLE) |                                                                                                                                 |                                             |                        |
| D                                                                                                                                                                                                                                                  | GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION                                                                      |                              |          |                                                                                                             |                                      | REGION<br><input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN |                                             |                        |
| E                                                                                                                                                                                                                                                  | LATITUDE<br>DEGREES                      MINUTES                      SECONDS                                                            |                              |          | LONGITUDE<br>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                                 |                        |
|                                                                                                                                                                                                                                                    | 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 ENVIRONMENT |                        |
| 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<br>STATION OPERATOR | EMPLOYER | LOCATION CALLED<br>YELLOWKNIFE, NT                                                                          | REPORT LINE NUMBER<br>(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 e-mailed as an attachment to [spills@gov.nt.ca](mailto:spills@gov.nt.ca). Until further notice, please verify receipt of e-mail transmissions with a follow-up telephone call to the spill line. Forms can also be printed and faxed to the spill line at 867-873-6924. Spills can still be phoned in by calling collect at 867-920-8130.

|                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. Report Date/Time</b>                             | 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. <b>Please do not fill in the Report Number:</b> the spill line will assign a number after the spill is reported.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>B. Occurrence Date/Time</b>                         | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>C. Land Use Permit Number /Water Licence Number</b> | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>D. Geographic Place Name</b>                        | 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. <b>You must include the geographic coordinates</b> (Refer to Section E).                                                                                                                                                                                                                                                                                                  |
| <b>E. Geographic Coordinates</b>                       | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>F. Responsible Party Or Vessel Name</b>             | 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. <b>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.</b>                                                                                                                                                                                         |
| <b>G. Contractor involved?</b>                         | 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.                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>H. Product Spilled</b>                              | 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)                                                                                                                                                                                                                                                                                                                                        |
| <b>I. Spill Source</b>                                 | 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 <sup>2</sup> )                                                                                                                                                                                                                                                                                                                                                                        |
| <b>J. Factors Affecting Spill</b>                      | 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 environment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.                                                                                                                                                                                                                                                                 |
| <b>K. Additional Information</b>                       | 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. <b>Please number the pages to ensure that recipients can be certain that they received all pertinent documents.</b> If only the spill report form was filled out, number the form as "Page 1 of 1". |
| <b>L. Reported to Spill Line by</b>                    | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>M. Alternate Contact</b>                            | Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>N. Report Line Use Only</b>                         | <b>Leave Blank.</b> This box is for the <b>Spill Line's use only.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Appendix C: SDS

### Table of Contents

|                                               |     |
|-----------------------------------------------|-----|
| Alkamer .....                                 | 1   |
| Anitfreeze.....                               | 6   |
| Calcium Chloride .....                        | 10  |
| Clay Seam .....                               | 19  |
| Clorox Regular Bleach .....                   | 23  |
| CR 650 Polymer .....                          | 33  |
| CSB (Concentrated Separotor By-Product) ..... | 40  |
| Diesel Fuel .....                             | 42  |
| Extra High Yield Gel.....                     | 54  |
| Gasoline, Unleaded .....                      | 58  |
| Grease – Enviro Cote.....                     | 71  |
| Grease – Extreme Duty Gun Grease .....        | 75  |
| Jet A / A-1 Aviation Turbine Fuel .....       | 86  |
| K ION .....                                   | 97  |
| Linseed Soap .....                            | 105 |
| Lysol Disinfectant Spray .....                | 108 |
| Number One.....                               | 117 |
| Oil – Gear (80W-90) .....                     | 122 |
| Oil – Hydraulic (AW 32) .....                 | 130 |
| Oil – Motor (5W-30).....                      | 136 |
| Oil – Motor (15W-40).....                     | 146 |
| Oil - Used.....                               | 153 |
| Propane .....                                 | 163 |
| Purell Hand Sanitizer .....                   | 174 |
| Rod Grease.....                               | 186 |
| STOP LCM/Jelly.....                           | 190 |
| Super-G Blue .....                            | 194 |
| Super-G Gold .....                            | 198 |

# MATERIAL SAFETY DATA SHEET



102-17910, 55 Ave, Surrey, BC, Canada V3S 6C8 • Toll Free 1-866-535-6699  
Tel: 604-575-6660 Fax: 604-575-5494 e-mail: extreme.ron@telus.net

EXTREME ALKAMER

EMERGENCY PHONE NO. (604) 575-6660

PAGE 1 OF 5

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 1  
FIRE 1  
REACTIVITY 0  
OTHER: B (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

PRODUCT NAME: EXTREME ALKAMER  
CHEMICAL IDENTIFICATION: Anionic copolymer of acrylamide, and acrylate emulsion  
MATERIAL USE: Viscosifier, clay inhibitor  
WHMIS CLASSIFICATION: Class D-2(B)  
WORK PLACE HAZARD: Skin, eye irritant

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not dangerous goods  
PACKAGE GROUP: Not applicable  
CAS NUMBER: 25085-02-3  
MSDS CODE: Not available

## SECTION 2

## HAZARDOUS INGREDIENTS

|             |                 |                         |
|-------------|-----------------|-------------------------|
| INGREDIENT: | MINERAL SPIRITS | ALKYL PHENOL ETHOXYLATE |
| PERCENTAGE: | 20 -40          | 3 - 7                   |
| CAS NUMBER: | 64742-47-8      | 9016-45-9               |
| LD (50):    | 6480 Mg/Kg.     | 3000 Mg/Kg.             |
| LC (50):    | Not available   | Not determined          |

## EXTREME ALKAMER

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                              |
|-----------------------------|------------------------------|
| APPEARANCE AND ODOUR:       | Off white liquid, mild odour |
| DENSITY (SPECIFIC GRAVITY): | Less than 1.0                |
| BOILING POINT:              | 290°C                        |
| MELTING POINT:              | Not applicable               |
| SOLUBILITY:                 | Soluble                      |
| EVAPORATION RATE: (EE=1):   | Not available                |
| VAPOUR PRESSURE: (MM HG):   | Not available                |
| VAPOUR DENSITY: (AIR = 1):  | Not available                |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                                                           |
|-------------------------------------|-------------------------------------------------------------------------------------------|
| FLASHPOINT:                         | > 200°C                                                                                   |
| FLAMMABLE LIMIT:                    | Not available                                                                             |
| AUTO IGNITION TEMP:                 | No data                                                                                   |
| EXTINGUISHING MEDIA:                | Dry chemical, carbon dioxide, foam, water spray,<br>water will cause extreme slipperiness |
| SPECIAL FIRE FIGHTING PROCEDURES:   | Self-contained respirators for fire fighting<br>personnel.                                |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Sensitivity to static charge.                                                             |

**SECTION 5****REACTIVITY DATA**

|                                        |                                      |
|----------------------------------------|--------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable                               |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong oxidizing and reducing agents |
| HAZARDOUS POLYMERIZATION:              | Will not occur                       |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | Not available                        |

## EXTREME ALKAMER

## MATERIAL SAFETY DATA SHEET

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

( ) INHALATION

(X) INGESTION

## SKIN CONTACT:

May be minimally irritating to sensitive skin upon direct contact.

## EYE CONTACT:

May cause stinging, burning of eyes and lids, inflammation and discomfort.

## INHALATION:

Not available.

## INGESTION:

May cause nausea, vomiting.

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

Impervious gloves, protective clothing as required

## EYE PROTECTION:

Chemical goggles.

## VENTILATION:

None required for normal use. 10 changes per hour.

## RESPIRATORY PROTECTION:

None required for normal use. Otherwise approved organic vapour-type respirator.

## LEAK &amp; SPILL PROCEDURE:

Eliminate sources of ignition. Absorb with earth or sand and dispose with solid waste. Wash site after collection.

## WASTE DISPOSAL:

Dispose in compliance with government regulations and local requirements.

## STORAGE REQUIREMENTS:

Cool, dry area, away from sources of heat, oxidizing and reducing agents. Keep containers closed when not in use.

## EXTREME ALKAMER

## MATERIAL SAFETY DATA SHEET

**SECTION 8****FIRST AID MEASURES**

SKIN:

Wash thoroughly with soap and warm water

EYE:

Flush with water for at least 15 minutes.

INHALATION:

Vapour pressure is negligible. Remove victim from further exposure.

INGESTION:

Do not induce vomiting. If conscious, dilute by giving two glasses of water. Seek medical attention.

**SECTION 9****PREPARATION DATE**

DATE ISSUED:

AUGUST 20, 2009

DATE REVISED:

JANUARY 1, 2012

BY:

PRODUCT SAFETY COMMITTEE

THE DATA REPRESENTED HEREIN IS BELIEVED ACCURATE AND REFLECTS OUR BEST PROFESSIONAL JUDGMENT. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY USE, OR ANY OTHER WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF SUCH DATA, THE RESULTS TO BE OBTAINED FROM THE USE THEREOF, OR THAT ANY SUCH USE DOES NOT INFRINGE ANY PATENT. SINCE THE INFORMATION CONTAINED HEREIN MAY BE APPLIED UNDER CONDITIONS OF USE BEYOND OUR CONTROL AND WITH WHICH WE MAY BE UNFAMILIAR, WE DO NOT ASSUME ANY RESPONSIBILITY FOR THE RESULTS OF SUCH APPLICATION. THIS INFORMATION IS FURNISHED UPON THE CONDITION THAT THE PERSON RECEIVING IT SHALL MAKE HIS OWN DETERMINATION OF THE SUITABILITY OF THE MATERIAL FOR HIS PARTICULAR PURPOSE.

## EXTREME ALKAMER

## MATERIAL SAFETY DATA SHEET

## ADDENDUM

SECTION 10ECOLOGICAL INFORMATION

This product has very low acute toxicity.

## ACUTE TOXICITY:

- Oral:
- Dermal:
- Inhalation:

LD50/oral/rat > 5000 mg/kg

The product is not toxic in contact with the skin.

The product is not expected to be toxic by inhalation.

## IRRITATION:

- Skin:

The results obtained using OECD test 404 demonstrated that the product was irritating to the skin.

- Eyes:

Irritating to eyes.

## SENSITIZATION:

The product is not expected to be sensitizing.

ECOTOXICITY

The product has very low toxicity to aquatic organisms or to the aquatic environment. However, as with all chemical products, do not introduce directly into the environment.

- Fish:
- Algae:

LC50 / Fathead minnows / 96 hours > 1000 mg/l

EC50 / 72h / *Phesodactylum tricournumtum* > 1000 mg/l

- Daphnie:

LC50 / 48h / *Chastogrammus marinus* <sup>3</sup> 15 mg/l

## Bioaccumulation:

The product is not expected to bioaccumulate.

## Persistence / degradability:

Not readily biodegradable.



# Material Safety Data Sheet

| NFPA | HMIS (U.S.A.)                                                                 | Rating                                                                | Protective Clothing | DOT (pictograms) |
|------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------|------------------|
|      | Health Hazard: 2<br>Fire Hazard: 1<br>Reactivity: 0<br>Personal Protection: H | 0: Insignificant<br>1: Slight<br>2: Moderate<br>3: High<br>4: Extreme |                     |                  |

## Section I. Chemical Product and Company Identification

|               |                                                                                                                                                                                                          |                      |                                                                                                                                                            |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name  | <b>ANTIFREEZE</b>                                                                                                                                                                                        | Code                 | W269                                                                                                                                                       |
| Synonym       | Universal Antifreeze, Radiator Antifreeze, Diesel Antifreeze, Petro-Canada Antifreeze-Coolant, Petro-Canada Heavy Duty Antifreeze-Coolant, Pre-Mix Antifreeze, Petro-Canada Premium Radiator Antifreeze. | DSL                  | On the DSL.                                                                                                                                                |
| Manufacturer  | PETRO-CANADA<br>P.O. Box 2844<br>Calgary, Alberta<br>T2P 3E3                                                                                                                                             | TSCA                 | On TSCA list.                                                                                                                                              |
| Material Uses | Used as an engine antifreeze coolant.                                                                                                                                                                    | In case of Emergency | Petro-Canada: 403-298-3000<br>Canutec Transportation:<br>513-996-6666<br>Poison Control Centre: Consult local telephone directory for emergency number(s). |

## Section II. Composition and Information on Ingredients

|                                    |                                                                                           |         | Exposure Limits (ACGIH) |                 |                                 |
|------------------------------------|-------------------------------------------------------------------------------------------|---------|-------------------------|-----------------|---------------------------------|
| Name                               | CAS #                                                                                     | % (V/V) | TLV-TWA(8 h)            | STEL            | CEILING                         |
| 1) Ethylene glycol                 | 107-21-1                                                                                  | >55     | Not established         | Not established | 100 mg/m <sup>3</sup> (aerosol) |
| 2) Sodium tetraborate pentahydrate | 1330-43-4                                                                                 | ≤5      | 1 mg/m <sup>3</sup>     | Not established | Not established                 |
| Manufacturer Recommendation        | Not applicable                                                                            |         |                         |                 |                                 |
| Other Exposure Limits              | Consult local, state, provincial or territory authorities for acceptable exposure limits. |         |                         |                 |                                 |

## Section III. Hazards Identification.

|                          |                                                                                                                                                               |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Potential Health Effects | Contact can cause slight irritation of skin, eyes and respiratory tract. Extremely dangerous in case of ingestion. For more information, refer to Section 11. |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Section IV. First Aid Measures

|                   |                                                                                                                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact       | IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.                                                                                    |
| Skin Contact      | Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.                             |
| Inhalation        | Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention. |
| Ingestion         | DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.                                                                                                   |
| Note to Physician | Not available                                                                                                                                                                                       |

## Section V. Fire-fighting Measures

|                                                |                                                                                                                                          |                                                     |                                              |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------|
| Flammability                                   | May be combustible at high temperature.                                                                                                  | Flammable Limits                                    | Lower: 3.2%, Upper: 15.3%                    |
| Flash Points                                   | Closed Cup: 116°C (Tagliabue)<br>Open Cup: 116°C (Cleveland)                                                                             | Auto-Ignition Temperature                           | 413°C                                        |
| Fire Hazards in Presence of Various Substances | Combustible in presence of open flames and sparks.                                                                                       | Explosion Hazards in Presence of Various Substances | Not a product presenting risks of explosion. |
| Products of Combustion                         | Carbon oxides (CO, CO <sub>2</sub> ), smoke and irritating vapours as products of incomplete combustion.                                 |                                                     |                                              |
| Fire Fighting Media and Instructions           | SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray or foam.<br>LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. |                                                     |                                              |

Continued on Next Page

Available in French

ANTIFREEZE

Page Number: 2

Section VI. Accidental Release Measures

|                           |                                                                                                                                                                                                                                                                                                                       |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Release or Spill | Small spill or leak: Dilute with water and mop up or absorb with an inert DRY material and place in an appropriate waste disposal container.<br>Large spill or leak: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Dispose of in accordance with regional regulations. |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Section VII. Handling and Storage

|          |                                                                                                                 |
|----------|-----------------------------------------------------------------------------------------------------------------|
| Handling | Avoid contamination with reactive substances. After handling, always wash hands thoroughly with soap and water. |
| Storage  | Keep container dry. Keep container tightly closed. Keep in a cool, well-ventilated place.                       |

Section VIII. Exposure Controls/Personal Protection

|                      |                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engineering Controls | For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station. |
| Personal Protection  | <i>The selection of personal protective equipment varies, depending upon conditions of use.</i>                                                                                                                                                                                                                                                                |
| Eyes                 | Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.                                                                                                 |
| Body                 | Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.                                                                                                                                                                                                                                                      |
| Respiratory          | Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.                                                 |
| Hands                | Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.                                                                                                                                                                                                                                       |
| Feet                 | Wear appropriate footwear to prevent product from coming in contact with feet and skin.                                                                                                                                                                                                                                                                        |

Section IX. Physical and Chemical Properties

|                               |                             |                          |                                               |
|-------------------------------|-----------------------------|--------------------------|-----------------------------------------------|
| Physical State and Appearance | Clear viscous liquid.       | Viscosity                | Not available                                 |
| Colour                        | Green.                      | Pour Point               | Not available                                 |
| Odour                         | Odourless.                  | Softening Point          | Not applicable.                               |
| Odour Threshold               | Not available               | Dropping Point           | Not applicable.                               |
| Boiling Point                 | 129 to 197°C (264 to 387°F) | Penetration              | Not applicable.                               |
| Density                       | 1.115 to 1.145 (Water = 1)  | Oil / Water Dist. Coeff. | Not available                                 |
| Vapour Density                | 2.1 (Air=1).                | Ionicity (in water)      | Not available                                 |
| Vapour Pressure               | 0.06 mmHg @ 20°C (68°F).    | Dispersion Properties    | Not available                                 |
| Volatility                    | 0% (w/w)                    | Solubility               | Soluble in water, methanol and diethyl ether. |

Section X. Stability and Reactivity

|                                               |                                                    |                          |                                                                             |
|-----------------------------------------------|----------------------------------------------------|--------------------------|-----------------------------------------------------------------------------|
| Corrosivity                                   | Not available                                      |                          |                                                                             |
| Stability                                     | The product is stable.                             | Hazardous Polymerization | Will not occur under normal working conditions.                             |
| Incompatible Substances / Conditions to Avoid | Reactive with oxidizing agents, acids and alkalis. | Decomposition Products   | May release COx, smoke and irritating vapours when heated to decomposition. |

Section XI. Toxicological Information

|                                  |                                                                                                       |
|----------------------------------|-------------------------------------------------------------------------------------------------------|
| Routes of Entry                  | Eye contact and ingestion.                                                                            |
| Acute Lethality                  | LD50: 4700 mg/kg (oral/rat). [Ethylene Glycol]<br>LD50: 9530 mg/kg (dermal/rabbit). [Ethylene Glycol] |
| Chronic or Other Toxic Effects   |                                                                                                       |
| Dermal Route:                    | Slightly hazardous in case of skin contact (irritant).                                                |
| Inhalation Route:                | Slightly hazardous in case of inhalation (lung irritant). Can cause nausea, headaches and vomiting.   |
| Oral Route:                      | Extremely dangerous in case of ingestion.                                                             |
| Eye Irritation/Inflammation:     | Slightly hazardous in case of eye contact (irritant).                                                 |
| Immunotoxicity:                  | Not available                                                                                         |
| Skin Sensitization:              | Not available                                                                                         |
| Respiratory Tract Sensitization: | Not available                                                                                         |
| Mutagenic:                       | Not available                                                                                         |

Continued on Next Page

Available in French

|                                |                                                                                                                                                                                                                                                                             |                |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| ANTIFREEZE                     |                                                                                                                                                                                                                                                                             | Page Number: 3 |
| Reproductive Toxicity:         | Not available                                                                                                                                                                                                                                                               |                |
| Teratogenicity/Embryotoxicity: | Fetotoxic and teratogenic in mice at levels below maternal toxicity.                                                                                                                                                                                                        |                |
| Carcinogenicity (ACGIH):       | ACGIH A4: not classifiable as a human carcinogen.                                                                                                                                                                                                                           |                |
| Carcinogenicity (IARC):        | Not available                                                                                                                                                                                                                                                               |                |
| Carcinogenicity (NTP):         | Not available                                                                                                                                                                                                                                                               |                |
| Carcinogenicity (IRIS):        | Not available                                                                                                                                                                                                                                                               |                |
| Carcinogenicity (OSHA):        | Not available                                                                                                                                                                                                                                                               |                |
| Other Considerations           | The substance may be toxic to kidneys and liver. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. |                |

|                                            |                       |                                              |               |
|--------------------------------------------|-----------------------|----------------------------------------------|---------------|
| <b>Section XII. Ecological Information</b> |                       |                                              |               |
| Environmental Fate                         | Not available         | Persistence/<br>Bioaccumulation<br>Potential | Not available |
| BOD5 and COD                               | Not available         | Products of<br>Biodegradation                | Not available |
| Additional Remarks                         | No additional remark. |                                              |               |

|                                              |                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Section XIII. Disposal Considerations</b> |                                                                                                                                                                                                                                                                                                                              |
| Waste Disposal                               | Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations. Consult your local or regional authorities. |

|                                           |                                                |                                     |                 |
|-------------------------------------------|------------------------------------------------|-------------------------------------|-----------------|
| <b>Section XIV. Transport Information</b> |                                                |                                     |                 |
| DOT Classification                        | Not a DOT controlled material (United States). | Special Provisions<br>for Transport | Not applicable. |

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |                                                                                      |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------|
| <b>Section XV. Regulatory Information</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |                                                                                      |
| Other<br>Regulations                      | <p>This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List).</p> <p>All components of this formulation are listed on the US EPA-TSCA Inventory.</p> <p>This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.</p> <p>Please contact Product Safety for more information.</p> |                              |                                                                                      |
| OSD/DPD (EEC)                             | Not evaluated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | WHMIS (Canada)               | D-2A                                                                                 |
| ADR (Europe)<br>(Pictograms)              | <p>NOT EVALUATED FOR<br/>EUROPEAN TRANSPORT</p> <p>NON ÉVALUÉ POUR LE<br/>TRANSPORT EUROPÉEN.</p>                                                                                                                                                                                                                                                                                                                                                                                                                  | TDG (Canada)<br>(Pictograms) |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Section XVI. Other Information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                             |
| References                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Available upon request.<br>* Marque de commerce de Petro-Canada - Trademark |
| <b>Glossary</b><br>ACGIH - American Conference of Governmental Industrial Hygienists<br>ADR - Agreement on Dangerous goods by Road (Europe)<br>ASTM - American Society for Testing and Materials<br>BOD5 - Biological Oxygen Demand in 5 days<br>CAN/CGA B149.2 - Propane Installation Code<br>CAS - Chemical Abstract Services<br>CEPA - Canadian Environmental Protection Act<br>CERCLA - Comprehensive Environmental Response, Compensation and Liability Act<br>CFR - Code of Federal Regulations<br>CHIP - Chemicals Hazard Information and Packaging Approved Supply List<br>COD5 - Chemical Oxygen Demand in 5 days<br>CPR - Controlled Products Regulations<br>DOT - Department of Transport<br>DSCL - Dangerous Substances Classification and Labeling (Europe)<br>DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)<br>DSL - Domestic Substance List<br>EEC/EU - European Economic Community/European Union<br>EINECS - European Inventory of Existing Commercial Chemical Substances<br>EPCRA - Emergency Planning and Community Right to Know Act<br>IRIS - Integrated Risk Information System<br>LD50/LC50 - Lethal Dose/Concentration kill 50%<br>LDLo/LCLo - Lowest Published Lethal Dose/Concentration<br>NAERG96 - North American Emergency Response Guide Book (1996)<br>NFPA - National Fire Prevention Association<br>NIOSH - National Institute for Occupational Safety & Health<br>NPRI - National Pollutant Release Inventory<br>NSNR - New Substances Notification Regulations (Canada)<br>NTP - National Toxicology Program<br>OSHA - Occupational Safety & Health Administration<br>PEL - Permissible Exposure Limit<br>RCRA - Resource Conservation and Recovery Act<br>SARA - Superfund Amendments and Reorganization Act<br>SD - Single Dose<br>STEL - Short Term Exposure Limit (15 minutes)<br>TDG - Transportation Dangerous Goods (Canada)<br>TDLo/TCLo - Lowest Published Toxic Dose/Concentration<br>TLm - Median Tolerance Limit<br>TLV-TWA - Threshold Limit Value-Time Weighted Average<br>TSCA - Toxic Substances Control Act<br>USEPA - United States Environmental Protection Agency |                                                                             |
| Continued on Next Page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                             |
| Available in French                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                             |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------|
| ANTIFREEZE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Page Number: 4                                                                               |
| FDA - Food and Drug Administration<br>FIFRA - Federal Insecticide, Fungicide and Rodenticide Act<br>HCS - Hazardous Communication System<br>HMIS - Hazardous Material Information System<br>IARC - International Agency for Research on Cancer                                                                                                                                                                                                                                                                                                       |  | USP - United States Pharmacopoeia<br>WHMIS - Workplace Hazardous Material Information System |
| For Copy of MSDS<br>Western Canada, telephone: 403-296-4158; fax: 403-296-6551<br>Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228<br>Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385<br>For Product Safety Information: (905) 804-4752                                                                                                                                                                                                                                                                  |  | Prepared by Product Safety - TAR on 7/3/2001.<br>Data entry by Product Safety - JDW.         |
| <i>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.</i> |  |                                                                                              |



## AMC CALCIUM CHLORIDE

AMC

Chemwatch: 20922

Version No: 6.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: **2**

Issue Date: 02/04/2016

Print Date: 12/08/2017

L.G.H.S.A.U.S.EN

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product Identifier

|                               |                      |
|-------------------------------|----------------------|
| Product name                  | AMC CALCIUM CHLORIDE |
| Chemical Name                 | calcium chloride     |
| Chemical formula              | Ca-Cl <sub>2</sub>   |
| Other means of identification | Not Available        |
| CAS number                    | 10043-52-4           |

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

|                          |                                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------------------------------------|
| Relevant identified uses | Used as a drying, dehydrating, desiccating agent for organic liquids, gases. Obsolete use as refrigerant brine. |
|--------------------------|-----------------------------------------------------------------------------------------------------------------|

#### 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@imdxlimited.com                        |

#### Emergency telephone number

|                                   |                                                                |
|-----------------------------------|----------------------------------------------------------------|
| Association / Organisation        | Not Available                                                  |
| Emergency telephone numbers       | 1800 039 008 or +61 3 9573 3112, +800 2436 2255 +613 9573 3112 |
| Other emergency telephone numbers | Not Available                                                  |

### SECTION 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. NON-DA**NGEROUS GOODS. According to the WHS Regulations and the ADG Code.

#### CHEMWATCH HAZARD RATINGS

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 0   |     |
| Toxicity     | 2   |     |
| Body Contact | 2   |     |
| Reactivity   | 0   |     |
| Chronic      | 0   |     |

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

|                              |                                                              |
|------------------------------|--------------------------------------------------------------|
| Poisons Schedule             | Not Applicable                                               |
| Classification <sup>b1</sup> | Acute Toxicity (Oral) Category 4, Eye Irritation Category 2A |

**Legend:**

1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

**Label elements**

|                     |                                                                                   |
|---------------------|-----------------------------------------------------------------------------------|
| Hazard pictogram(s) |  |
|---------------------|-----------------------------------------------------------------------------------|

|             |                |
|-------------|----------------|
| SIGNAL WORD | <b>WARNING</b> |
|-------------|----------------|

**Hazard statement(s)**

|        |                                                        |
|--------|--------------------------------------------------------|
| H302   | Harmful if swallowed.                                  |
| H319   | Causes serious eye irritation.                         |
| AUH066 | Repeated exposure may cause skin dryness and cracking. |

**Precautionary statement(s) Prevention**

|      |                                                                            |
|------|----------------------------------------------------------------------------|
| P270 | Do not eat, drink or smoke when using this product.                        |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

**Precautionary statement(s) Response**

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337+P313      | If eye irritation persists: Get medical advice/attention.                                                                        |

**Precautionary statement(s) Storage**

Not Applicable

**Precautionary statement(s) Disposal**

|      |                                                                     |
|------|---------------------------------------------------------------------|
| P501 | Dispose of contents/container in accordance with local regulations. |
|------|---------------------------------------------------------------------|

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

| CAS No     | %[weight] | Name                                   |
|------------|-----------|----------------------------------------|
| 10043-52-4 | >85       | calcium chloride                       |
|            |           | commercial materials may contain up to |
|            |           | 3% sodium chloride                     |

**Mixtures**

See section above for composition of Substances

**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"> <li>Wash out immediately with fresh running water.</li> <li>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.</li> <li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>Flush skin and hair with running water (and soap if available).</li> <li>Seek medical attention in event of irritation.</li> </ul>                                                                                                                                                                                                                                                                                                                    |
| Inhalation   | <ul style="list-style-type: none"> <li>If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>Other measures are usually unnecessary.</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| Ingestion    | <ul style="list-style-type: none"> <li><b>IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.</b></li> <li>For advice, contact a Poisons Information Centre or a doctor.</li> <li>Urgent hospital treatment is likely to be needed.</li> </ul>                                                                                                                                                                                                                                                                |

- ▶ In the mean time, qualified first aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- ▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.
- ▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

**Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:**

- ▶ **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

**NOTE:** Wear a protective glove when inducing vomiting by mechanical means.

#### Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

#### BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.
- ▶ **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

#### ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive pressure ventilation using a bag valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Treat symptomatically.

### 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

|                                |                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Incompatibility</b>    | None known.                                                                                                                                                                                                                                                                                                                                                        |
| <b>Advice for firefighters</b> |                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Fire Fighting</b>           | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> </ul>                                                                                                                                                             |
| <b>Fire/Explosion Hazard</b>   | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered a significant fire risk, however containers may burn.</li> </ul> <p>Decomposition may produce toxic fumes of:</p> <ul style="list-style-type: none"> <li>• hydrogen chloride</li> <li>• metal oxides</li> </ul> <p>May emit poisonous fumes.<br/>May emit corrosive fumes.</p> |
| <b>HAZCHEM</b>                 | 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"> <li>Remove all ignition sources.</li> <li>Clean up all spills immediately.</li> </ul> |
| Major Spills | <p>Moderate hazard.</p> <ul style="list-style-type: none"> <li><b>CAUTION:</b> Advise personnel in area.</li> </ul>      |

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"> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> </ul>                                                                     |
| Other information | <ul style="list-style-type: none"> <li>Material is hygroscopic, i.e. absorbs moisture from the air. Keep containers well sealed in storage.</li> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> </ul> |

### Conditions for safe storage, including any incompatibilities

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable container      | <ul style="list-style-type: none"> <li><b>DO NOT</b> use aluminium or galvanised containers.</li> <li>Polyethylene or polypropylene container.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Storage incompatibility | <p>Inorganic alkaline earth metal derivative.<br/>Derivative of very electropositive metal.<br/>Calcium chloride (and its hydrates):</p> <ul style="list-style-type: none"> <li>are incompatible with boric acid, calcium oxide, bromine trifluoride, 2-furan, percarboxylic acid</li> <li>may produce explosive hydrogen gas on contact with zinc</li> <li>catalyse exothermic polymerisation of methyl vinyl ether</li> <li>produce heat on contact with water</li> <li>attack metals</li> </ul> <p>Addition of a quantity of calcium chloride to boiling water has generated heat sufficient to cause a violent steam explosion on several occasions</p> <ul style="list-style-type: none"> <li>Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.</li> <li>These trifluorides are hypergolic oxidisers.</li> <li>In presence of moisture, the material is corrosive to aluminium, zinc and tin producing highly flammable hydrogen gas.</li> </ul> |

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Not Available

#### EMERGENCY LIMITS

| Ingredient       | Material name    | TEEL-1   | TEEL-2    | TEEL-3    |
|------------------|------------------|----------|-----------|-----------|
| calcium chloride | Calcium chloride | 12 mg/m3 | 130 mg/m3 | 790 mg/m3 |

| Ingredient       | Original IDLH | Revised IDLH  |
|------------------|---------------|---------------|
| calcium chloride | 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 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).

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.

#### Exposure controls

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriate engineering controls</b> | 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.                                                                                                                                                                                                                                                                                                                |
| <b>Personal protection</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>Safety glasses with side shields.</li> <li>Chemical goggles.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Skin protection</b>                  | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Hands/feet protection</b>            | <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. 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"> <li>polychloroprene.</li> </ul> |
| <b>Body protection</b>                  | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Other protection</b>                 | <ul style="list-style-type: none"> <li>Overalls.</li> <li>P.V.C.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Thermal hazards</b>                  | Not Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

#### Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- 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.
- 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

|                                                     |                                                                                                                          |                                                |                |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|----------------|
| <b>Appearance</b>                                   | Material is hygroscopic, absorbs moisture from surrounding air.<br>[Small white crystals, granules, or flakes. No odour. |                                                |                |
| <b>Physical state</b>                               | Divided Solid                                                                                                            | <b>Relative density (Water = 1)</b>            | 2.15           |
| <b>Odour</b>                                        | Not Available                                                                                                            | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available                                                                                                            | <b>Auto-ignition temperature (°C)</b>          | Not Applicable |
| <b>pH (as supplied)</b>                             | Not Applicable                                                                                                           | <b>Decomposition temperature</b>               | Not available. |
| <b>Melting point / freezing point (°C)</b>          | 772                                                                                                                      | <b>Viscosity (cSt)</b>                         | Not Applicable |
| <b>Initial boiling point and boiling range (°C)</b> | >1600                                                                                                                    | <b>Molecular weight (g/mol)</b>                | 110.99         |
| <b>Flash point (°C)</b>                             | Not Applicable                                                                                                           | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Applicable                                                                                                           | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Applicable                                                                                                           | <b>Oxidising properties</b>                    | Not Available  |

|                           |                |                                  |                |
|---------------------------|----------------|----------------------------------|----------------|
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Applicable |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol)        | Nil            |
| Vapour pressure (kPa)     | Negligible     | Gas group                        | Not Available  |
| Solubility in water (g/L) | Miscible       | pH as a solution (1%)            | Not available. |
| Vapour density (Air = 1)  | Not Applicable | VOC g/L                          | Not Applicable |

## SECTION 10 STABILITY AND REACTIVITY

|                                    |                                                                                                                                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | See section 7                                                                                                                                    |
| Chemical stability                 | <ul style="list-style-type: none"> <li>► Unstable in the presence of incompatible materials.</li> <li>► Product is considered stable.</li> </ul> |
| 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 either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and 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>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Compared with other metals, the calcium ion and most calcium compounds have low toxicity. Acute calcium poisoning is rare, and difficult to achieve unless calcium compounds are administered intravenously or taken in high doses over a prolonged period.</p> <p>(Use as a food additive indicates tolerance of small amounts, but irritant properties and toxic effects of large amounts are well documented. Estimated lethal dose for adult is 30 grams.</p>                                                                                                                                                                                                                                                                                                                                                                                          |
| Skin Contact | <p>Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material.</p> <p>Solution of material in moisture on the skin, or perspiration, may increase irritant effects.</p> <p>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.</p> <p>If skin is wet or moist with perspiration, superficial burns may result. Contact with abraded skin or cuts may rapidly cause severe skin burns.</p> |
| Eye          | <p>Evidence exists, or practical experience predicts, that the material may cause severe 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. Eye contact may cause significant inflammation with pain.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Chronic      | <p>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>High blood concentrations of calcium ion may give rise to vasodilation and depress cardiac function leading to hypotension and syncope. Calcium ions enhance the effects of digitalis on the heart and may precipitate digitalis intoxication.</p> <p>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.</p>                                                                                                                                                                                                                                                                                              |

| calcium chloride | TOXICITY                                                                                                                                                                                                                      | IRRITATION                                               |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
|                  | Oral (rat) LD50: 1000 mg/kg <sup>[2]</sup>                                                                                                                                                                                    | Eye (unknown): severe* [IC]<br>Skin (unknown): moderate* |
| <b>Legend:</b>   | 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 |                                                          |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CALCIUM CHLORIDE</b> | <p>for calcium:<br/>Toxicity from calcium is not common because the gastrointestinal tract normally limits the amount of calcium absorbed. Therefore, short-term intake of large amounts of calcium does not generally produce any ill effects aside from <b>constipation</b> and an increased risk of kidney stones.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>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 the epidermis.</p> |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                          |   |                                 |   |
|------------------------------------------|---|---------------------------------|---|
| <b>Acute Toxicity</b>                    | ✓ | <b>Carcinogenicity</b>          | ⊘ |
| <b>Skin Irritation/Corrosion</b>         | ⊘ | <b>Reproductivity</b>           | ⊘ |
| <b>Serious Eye Damage/Irritation</b>     | ✓ | <b>STOT - Single Exposure</b>   | ⊘ |
| <b>Respiratory or Skin sensitisation</b> | ⊘ | <b>STOT - Repeated Exposure</b> | ⊘ |
| <b>Mutagenicity</b>                      | ⊘ | <b>Aspiration Hazard</b>        | ⊘ |

**Legend:** ✗ - Data available but does not fill the criteria for classification  
✓ - Data available to make classification  
⊘ - Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

### Toxicity

| calcium chloride | ENDPOINT                                                                                                                                                                                                                                                                                                                                                                                  | TEST DURATION (HR) | SPECIES                       | VALUE         | SOURCE |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------|---------------|--------|
|                  | LC50                                                                                                                                                                                                                                                                                                                                                                                      | 96                 | Fish                          | ~3mg/L        | 1      |
|                  | EC50                                                                                                                                                                                                                                                                                                                                                                                      | 48                 | Crustacea                     | ~52mg/L       | 1      |
|                  | EC50                                                                                                                                                                                                                                                                                                                                                                                      | 96                 | Algae or other aquatic plants | 3130mg/L      | 4      |
|                  | BCFD                                                                                                                                                                                                                                                                                                                                                                                      | 48                 | Crustacea                     | 0.0832425mg/L | 4      |
|                  | NOEC                                                                                                                                                                                                                                                                                                                                                                                      | 48                 | Crustacea                     | 260.12mg/L    | 4      |
| <b>Legend:</b>   | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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 |                    |                               |               |        |

for calcium chloride:

#### Environmental fate:

Calcium chlorides vapour pressure is negligible and its water solubility is 745 g/L at 20 deg C. Calcium chloride is readily dissociated into calcium and chloride ions in water. These physico-chemical properties indicate that calcium chloride released into the environment is distributed into the water compartment in the form of calcium and chloride ions.

Calcium provides an important link between tectonics, climate and the carbon cycle. In the simplest terms, uplift of mountains exposes Ca-bearing rocks to chemical weathering and releases Ca<sup>2+</sup> into surface water.

Although inorganic chloride ions are not normally considered toxic they can exist in effluents at acutely toxic levels (chloride >3000 mg/l). The resulting salinity can exceed the tolerances of most freshwater organisms.

**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"> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> <li>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.</li> <li><b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</li> <li>It may be necessary to collect all wash water for treatment before disposal.</li> <li>Recycle wherever possible or consult manufacturer for recycling options.</li> <li>Consult State Land Waste Management Authority for disposal.</li> </ul> |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 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

### SECTION 15 REGULATORY INFORMATION

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

**CALCIUM CHLORIDE(10043-52-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

| Australia Hazardous Substances Information System - Consolidated Lists |                                                                                                                                                                                                   | Australia Inventory of Chemical Substances (AICS) |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| National Inventory                                                     | Status                                                                                                                                                                                            |                                                   |
| Australia - AICS                                                       | Y                                                                                                                                                                                                 |                                                   |
| Canada - DSL                                                           | Y                                                                                                                                                                                                 |                                                   |
| Canada - NDSL                                                          | N (calcium chloride)                                                                                                                                                                              |                                                   |
| China - IECSC                                                          | Y                                                                                                                                                                                                 |                                                   |
| Europe - EINEC / ELINCS / NLP                                          | Y                                                                                                                                                                                                 |                                                   |
| Japan - ENCS                                                           | Y                                                                                                                                                                                                 |                                                   |
| Korea - KECI                                                           | Y                                                                                                                                                                                                 |                                                   |
| New Zealand - NZIoC                                                    | Y                                                                                                                                                                                                 |                                                   |
| Philippines - PICCS                                                    | Y                                                                                                                                                                                                 |                                                   |
| USA - TSCA                                                             | Y                                                                                                                                                                                                 |                                                   |
| <b>Legend:</b>                                                         | <p>Y = All ingredients are on the inventory<br/> N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</p> |                                                   |

### SECTION 16 OTHER 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  
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

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# MATERIAL SAFETY DATA SHEET



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EXTREME CLAY SEAM

EMERGENCY PHONE NO. (604) 575-6660

PAGE 1 OF 4

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 1  
FIRE 1  
REACTIVITY 0  
OTHER: B (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

PRODUCT NAME: EXTREME CLAY SEAM  
CHEMICAL IDENTIFICATION: Polyacrylic Acid  
MATERIAL USE: Specialty Clay Dispersant  
WHMIS CLASSIFICATION: Class D-2B  
WORK PLACE HAZARD: Skin, Eye Irritant

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not Dangerous Goods  
PACKAGE GROUP: Not Applicable  
CAS NUMBER: 9003-01-4:2  
MSDS CODE: Not Applicable

## SECTION 2

## HAZARDOUS INGREDIENTS

INGREDIENT: Polyacrylic Acid  
PERCENTAGE: 30 - 60%  
CAS NUMBER: 9003-01-4:2  
LD (50): Not Available  
LC (50): Not Available

## EXTREME CLAY SEAM

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| APPEARANCE AND ODOUR:       | Liquid, water white to straw colour, mild odour |
| DENSITY (SPECIFIC GRAVITY): | 1.3                                             |
| BOILING POINT:              | > 100°C                                         |
| MELTING POINT:              | Not Applicable                                  |
| SOLUBILITY:                 | Soluble                                         |
| EVAPORATION RATE: (EE=1):   | Slower than butyl acetate                       |
| VAPOUR PRESSURE: (MM HG):   | < 17.5                                          |
| VAPOUR DENSITY: (AIR = 1):  | Same as air                                     |
| pH:                         | 5.0 - 7.0                                       |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                                                                                                           |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| FLASHPOINT:                         | > 100°C PMCC                                                                                                                              |
| FLAMMABLE LIMIT:                    | Not available                                                                                                                             |
| AUTO IGNITION TEMP:                 | No data                                                                                                                                   |
| EXTINGUISHING MEDIA:                | Dry chemical, carbon dioxide, foam, water spray                                                                                           |
| SPECIAL FIRE FIGHTING PROCEDURES:   | Self-contained respirators for fire fighting personnel.                                                                                   |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Acrid smoke may be generated while burning. carbon monoxide, carbon dioxide, and other oxides may be generated as products of combustion. |

**SECTION 5****REACTIVITY DATA**

|                                        |                                                                                                     |
|----------------------------------------|-----------------------------------------------------------------------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable                                                                                              |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong oxidizing agents and reducing agents, contamination with reactive substances, excessive heat |
| HAZARDOUS POLYMERIZATION:              | Will not occur                                                                                      |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | Acrid smoke, fumes when heated to decomposition. Oxides of carbon.                                  |

## MATERIAL SAFETY DATA SHEET

## EXTREME CLAY SEAM

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

(X) INHALATION

(X) INGESTION

## SKIN CONTACT:

May be minimally irritating to sensitive skin upon prolonged direct contact.

## EYE CONTACT:

May be minimally irritating to eyes upon direct contact.

## INHALATION:

Product has low vapour pressure and is not expected to present a hazard at ambient temperatures. Caution should be taken to avoid misting.

## INGESTION:

Product is practically non toxic by ingestion.

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

Impervious gloves, protective clothing as required

## EYE PROTECTION:

Chemical goggles.

## VENTILATION:

None required for normal use. Adequate ventilation required if mist is generated.

## RESPIRATORY PROTECTION:

Use NIOSH - Approved air-purifying respirator if vapours are generated.

## LEAK &amp; SPILL PROCEDURE:

Absorb with earth or sand and dispose of with solid waste. Wash site after spilled material has been collected.

## WASTE DISPOSAL:

Dispose in compliance with government regulations and local requirements.

## STORAGE REQUIREMENTS:

Cool, dry area, away from sources of heat, alkalis, oxidizing and reducing agents. Keep containers closed when not in use.

## MATERIAL SAFETY DATA SHEET

## EXTREME CLAY SEAM

**SECTION 8****FIRST AID MEASURES**

|             |                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------|
| SKIN:       | Wash thoroughly with soap and warm water                                                             |
| EYE:        | Flush with water for at least 15 minutes.                                                            |
| INHALATION: | Vapour pressure is negligible. Remove victim from further exposure.                                  |
| INGESTION:  | Do not induce vomiting. If conscious, dilute by giving two glasses of water. Seek medical attention. |

**SECTION 9****PREPARATION DATE**

|               |                          |
|---------------|--------------------------|
| DATE ISSUED:  | AUGUST 20, 2009          |
| DATE REVISED: | JANUARY 01, 2012         |
| BY:           | PRODUCT SAFETY COMMITTEE |

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# SAFETY DATA SHEET

Issuing Date January 5, 2015

Revision Date June 12, 2015

Revision Number 1

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

Product Name Clorox® Regular-Bleach

### Other means of identification

EPA Registration Number 5813-100

### Recommended use of the chemical and restrictions on use

Recommended use Household disinfecting, sanitizing, and laundry bleach

Uses advised against No information available

### Details of the supplier of the safety data sheet

#### **Supplier Address**

The Clorox Company  
1221 Broadway  
Oakland, CA 94612

Phone: 1-510-271-7000

### Emergency telephone number

Emergency Phone Numbers For Medical Emergencies, call: 1-800-446-1014  
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

|                                   |            |
|-----------------------------------|------------|
| Skin corrosion/irritation         | Category 1 |
| Serious eye damage/eye irritation | Category 1 |

### GHS Label elements, including precautionary statements

#### Emergency Overview

|                                                                                   |                    |                       |             |
|-----------------------------------------------------------------------------------|--------------------|-----------------------|-------------|
| <b>Signal word</b>                                                                |                    | <b>Danger</b>         |             |
| <b>Hazard Statements</b>                                                          |                    |                       |             |
| Causes severe skin burns and eye damage                                           |                    |                       |             |
| Causes serious eye damage                                                         |                    |                       |             |
|  |                    |                       |             |
| <b>Appearance</b>                                                                 | Clear, pale yellow | <b>Physical State</b> | Thin liquid |
|                                                                                   |                    | <b>Odor</b>           | Bleach      |

### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling.  
Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

### Precautionary Statements - Response

Immediately call a poison center or doctor.  
If swallowed: Rinse mouth. Do NOT induce vomiting.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
Wash contaminated clothing before reuse.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Specific treatment (see supplemental first aid instructions on this label).  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### Precautionary Statements - Storage

Store locked up.

### Precautionary Statements - Disposal

Dispose of contents in accordance with all applicable federal, state, and local regulations.

### Hazards not otherwise classified (HNOC)

Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.

Product contains a strong oxidizer. Always flush drains before and after use.

**Unknown Toxicity**

Not applicable.

**Other information**

Very toxic to aquatic life with long lasting effects.

**Interactions with Other Chemicals**

Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Chemical Name       | CAS-No    | Weight % | Trade Secret |
|---------------------|-----------|----------|--------------|
| Sodium hypochlorite | 7681-52-9 | 5 - 10   | *            |

\* The exact percentage (concentration) of composition has been withheld as a trade secret.

**4. FIRST AID MEASURES****First aid measures****General Advice**

Call a poison control center or doctor immediately for treatment advice. Show this safety data sheet to the doctor in attendance.

**Eye Contact**

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**Skin Contact**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Inhalation**

Move to fresh air. If breathing is affected, call a doctor.

**Ingestion**

Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

**Protection of First-aiders**

Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**Most important symptoms and effects, both acute and delayed****Most Important Symptoms and Effects**

Burning of eyes and skin.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific Hazards Arising from the Chemical

This product causes burns to eyes, skin, and mucous membranes. Thermal decomposition can release sodium chlorate and irritating gases and vapors.

### Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

### 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**

Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

#### **Other Information**

Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

#### **Environmental Precautions**

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams. See Section 12 for 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 Cleaning Up**

Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

### Conditions for safe storage, including any incompatibilities

**Storage** Store away from children. Reclose cap tightly after each use. Store this product upright in a cool, dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate food or feed by storage of this product.

**Incompatible Products** Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

| Chemical Name                    | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|----------------------------------|-----------|----------|------------|
| Sodium hypochlorite<br>7681-52-9 | None      | None     | None       |

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** If splashes are likely to occur: Wear safety glasses with side shields (or goggles) or face shield.

**Skin and Body Protection** Wear rubber or neoprene gloves and protective clothing such as long-sleeved shirt.

**Respiratory Protection** If 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.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

|                |             |                |                          |
|----------------|-------------|----------------|--------------------------|
| Physical State | Thin liquid | Odor           | Bleach                   |
| Appearance     | Clear       | Odor Threshold | No information available |
| Color          | Pale yellow |                |                          |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks/ Method</u> |
|----------------------------------------|-------------------|------------------------|
| pH                                     | ~12               | None known             |
| Melting/freezing point                 | No data available | None known             |
| Boiling point / boiling range          | No data available | None known             |
| Flash Point                            | Not flammable     | None known             |
| Evaporation rate                       | No data available | None known             |
| Flammability (solid, gas)              | No data available | None known             |
| Flammability Limits in Air             |                   |                        |
| Upper flammability limit               | No data available | None known             |
| Lower flammability limit               | No data available | None known             |
| Vapor pressure                         | No data available | None known             |
| Vapor density                          | No data available | None known             |
| Specific Gravity                       | ~1.1              | None known             |
| Water Solubility                       | Soluble           | None known             |
| Solubility in other solvents           | No data available | None known             |
| Partition coefficient: n-octanol/water | 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             |
| Explosive Properties                   | Not explosive     |                        |
| Oxidizing Properties                   | No data available |                        |

### Other Information

|                            |                   |
|----------------------------|-------------------|
| Softening Point            | No data available |
| VOC Content (%)            | No data available |
| Particle Size              | No data available |
| Particle Size Distribution | No data available |

## 10. STABILITY AND REACTIVITY

### Reactivity

Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

None known based on information supplied.

### Incompatible materials

Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

|                     |                                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>   | Exposure to vapor or mist may irritate respiratory tract and cause coughing. Inhalation of high concentrations may cause pulmonary edema. |
| <b>Eye Contact</b>  | Corrosive. May cause severe damage to eyes.                                                                                               |
| <b>Skin Contact</b> | May cause severe irritation to skin. Prolonged contact may cause burns to skin.                                                           |
| <b>Ingestion</b>    | Ingestion may cause burns to gastrointestinal tract and respiratory tract, nausea, vomiting, and diarrhea.                                |

#### Component Information

| Chemical Name                    | LD50 Oral        | LD50 Dermal           | LC50 Inhalation |
|----------------------------------|------------------|-----------------------|-----------------|
| Sodium hypochlorite<br>7681-52-9 | 8200 mg/kg (Rat) | >10000 mg/kg (Rabbit) | -               |

### Information on toxicological effects

|                 |                                                                                                                                        |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Symptoms</b> | May cause redness and tearing of the eyes. May cause burns to eyes. May cause redness or burns to skin. Inhalation may cause coughing. |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                      |                           |
|----------------------|---------------------------|
| <b>Sensitization</b> | No information available. |
|----------------------|---------------------------|

|                          |                           |
|--------------------------|---------------------------|
| <b>Mutagenic Effects</b> | No information available. |
|--------------------------|---------------------------|

|                        |                                                                                          |
|------------------------|------------------------------------------------------------------------------------------|
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |
|------------------------|------------------------------------------------------------------------------------------|

| Chemical Name                    | ACGIH | IARC    | NTP | OSHA |
|----------------------------------|-------|---------|-----|------|
| Sodium hypochlorite<br>7681-52-9 | -     | Group 3 | -   | -    |

*IARC (International Agency for Research on Cancer)  
Group 3 - Not Classifiable as to Carcinogenicity in Humans*

|                              |                           |
|------------------------------|---------------------------|
| <b>Reproductive Toxicity</b> | No information available. |
|------------------------------|---------------------------|

|                               |                           |
|-------------------------------|---------------------------|
| <b>STOT - single exposure</b> | No information available. |
|-------------------------------|---------------------------|

|                                 |                                                              |
|---------------------------------|--------------------------------------------------------------|
| <b>STOT - repeated exposure</b> | No information available.                                    |
| <b>Chronic Toxicity</b>         | Carcinogenic potential is unknown.                           |
| <b>Target Organ Effects</b>     | Respiratory system, eyes, skin, gastrointestinal tract (GI). |

|                          |                           |
|--------------------------|---------------------------|
| <b>Aspiration Hazard</b> | No information available. |
|--------------------------|---------------------------|

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

54 g/kg

ATEmix (inhalation-dust/mist)

58 mg/L

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams.

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Dispose of in accordance with all applicable federal, state, and local regulations. Do not contaminate food or feed by disposal of this product.

**Contaminated Packaging**

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

**14. TRANSPORT INFORMATION****DOT**

Not restricted.

**TDG**

Not restricted for road or rail.

**ICAO**

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

**IATA**

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

**IMDG/IMO**

Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

## 15. REGULATORY INFORMATION

### Chemical Inventories

**TSCA** All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

**DSL/NDSL** All components are on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### U.S. 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**

|                                   |     |
|-----------------------------------|-----|
| Acute Health Hazard               | Yes |
| Chronic Health Hazard             | No  |
| Fire Hazard                       | No  |
| Sudden Release of Pressure Hazard | No  |
| Reactive Hazard                   | No  |

#### **Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name                    | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|----------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Sodium hypochlorite<br>7681-52-9 | 100 lb                      |                        |                           | X                          |

#### **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 | Extremely Hazardous Substances RQs | RQ                                        |
|----------------------------------|--------------------------|------------------------------------|-------------------------------------------|
| Sodium hypochlorite<br>7681-52-9 | 100 lb                   | -                                  | RQ 100 lb final RQ<br>RQ 45.4 kg final RQ |

#### **EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**DANGER: CORROSIVE.** Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

**U.S. 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 | Rhode Island | Illinois |
|----------------------------------|------------|---------------|--------------|--------------|----------|
| Sodium hypochlorite<br>7681-52-9 | X          | X             | X            | X            |          |
| Sodium chlorate<br>7775-09-9     | X          | X             | X            |              |          |

**International Regulations****Canada****WHMIS Hazard Class**

E - Corrosive material

**16. OTHER INFORMATION**

**NEPA** Health Hazard 3 Flammability 0 Instability 0 Physical and Chemical Hazards -

**HMS** Health Hazard 3 Flammability 0 Physical Hazard 0 Personal Protection B

**Prepared By**

Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Revision Date**

June 12, 2015

**Revision Note**

Revision Section 14.

**Reference**

1096036/164964.159

**General 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



## AMC CR 650™

AMC

Chemwatch: 4902-92

Version No: 14.1.1.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 0

Issue Date: 01/09/2018

Print Date: 10/15/2019

L.GHS.CAN.EN

### SECTION 1 IDENTIFICATION

#### Product Identifier

|                               |               |
|-------------------------------|---------------|
| Product name                  | AMC CR 650™   |
| Synonyms                      | PHPA          |
| 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@indextlimited.com                                             |

#### Emergency phone number

|                                   |                              |                              |
|-----------------------------------|------------------------------|------------------------------|
| Association / Organisation        | AMC                          | CHEMWATCH EMERGENCY RESPONSE |
| Emergency telephone numbers       | Chemwatch - (1) 877 715 9305 | +61 2 9186 1132              |
| Other emergency telephone numbers | -                            | Not Available                |

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

#### 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

|                             |             |
|-----------------------------|-------------|
| <b>Fire Incompatibility</b> | None known. |
|-----------------------------|-------------|

#### Special protective equipment and precautions for fire-fighters

|                              |                                                                                                                                                                                                                                                                                                              |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus plus protective gloves in the event of a fire.</li> </ul>                                                                                                           |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>Non combustible.</li> <li>Not considered a significant fire risk, however containers may burn.</li> </ul> <p>Decomposes on heating and produces toxic fumes of:<br/>carbon monoxide (CO)<br/>carbon dioxide (CO<sub>2</sub>)<br/>nitrogen oxides (NO<sub>x</sub>)</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

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

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

### SECTION 7 HANDLING AND STORAGE

#### Precautions for safe handling

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

#### Conditions for safe storage, including any incompatibilities

|                                |                                                                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>Lined metal can, lined metal pail/ can.</li> <li>Plastic pail.</li> </ul> |
| <b>Storage incompatibility</b> | 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  | Material name | TEEL-1        | TEEL-2        | TEEL-3        |
|-------------|---------------|---------------|---------------|---------------|
| AMC CR 650™ | Not Available | Not Available | Not Available | Not Available |

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

##### MATERIAL DATA

#### Exposure controls

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriate engineering controls</b> | 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.                                                                                                                                                                                                                                                                                                                |
| <b>Personal protection</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>Safety glasses with side shields</li> <li>Chemical goggles.</li> <li>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Skin protection</b>                  | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Hands/feet protection</b>            | <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. 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"> <li>polychloroprene.</li> </ul> |
| <b>Body protection</b>                  | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Other protection</b>                 | <p>No special equipment needed when handling small quantities.</p> <p><b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>Overalls.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES                      | P1<br>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(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), 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

|                                                     |                                 |                                                |                |
|-----------------------------------------------------|---------------------------------|------------------------------------------------|----------------|
| <b>Appearance</b>                                   | White powder, soluble in water. |                                                |                |
| <b>Physical state</b>                               | Divided Solid                   | <b>Relative density (Water = 1)</b>            | Not Available  |
| <b>Odour</b>                                        | Not Available                   | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available                   | <b>Auto-ignition temperature (°C)</b>          | Not Applicable |
| <b>pH (as supplied)</b>                             | Not Applicable                  | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | >150                            | <b>Viscosity (cSt)</b>                         | Not Applicable |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available                   | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | Not Applicable                  | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Applicable                  | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Applicable                  | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Applicable                  | <b>Surface Tension (dyn/cm or mN/m)</b>        | 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 <b>NOT</b> 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.<br>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 |
| <b>Legend:</b> | 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 |
| <b>Legend:</b> | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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"> <li>Recycle wherever possible or consult manufacturer for recycling options.</li> <li>Consult State Land Waste Management Authority for disposal.</li> </ul> |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 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

Not Applicable

### 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 Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

#### National Inventory Status

| National Inventory            | Status |
|-------------------------------|--------|
| Australia - AICS              | Yes    |
| Canada - DSL                  | Yes    |
| Canada - NDSL                 | Yes    |
| 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 - ARIPS      | Yes                                                                                                                                                                                                       |
| <b>Legend:</b>      | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets) |

## SECTION 16 OTHER INFORMATION

|                      |               |
|----------------------|---------------|
| <b>Revision Date</b> | 01/09/2018    |
| <b>Initial Date</b>  | Not Available |

## SDS Version Summary

| Version  | Issue Date | Sections Updated                                                                                                             |
|----------|------------|------------------------------------------------------------------------------------------------------------------------------|
| 13.1.1.1 | 10/12/2017 | Appearance, Environmental, Fire Fighter (fire/explosion hazard), Ingredients, Physical Properties, Supplier Information, Use |
| 14.1.1.1 | 01/09/2018 | 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  
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

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



**WESTWAY FEED PRODUCTS, INC.**  
**3315 2<sup>nd</sup> AVE. N**  
**LETHBRIDGE, AB**  
**(800)563-6371**

## **MATERIAL SAFETY DATA SHEET**

**REVISED JUNE 28, 2007**

### **SECTION I: PRODUCT IDENTIFICATION**

DESCRIPTION: CSB (CONCENTRATED SEPARATOR BY-PRODUCT)

USE: ANIMAL FEED

MANUFACTURER: WESTWAY FEED PRODUCTS, INC.  
3315 2<sup>nd</sup> AVE. N.  
LETHBRIDGE, AB, CANADA  
T1H 0C7

EMERGENCY CONTACT: WESTWAY FEED PRODUCTS, INC.  
TECHNICAL SERVICES  
DON MANN (403)660-4416

### **SECTION II: HAZARDOUS MATERIAL IDENTIFICATION**

HAZARD DESCRIPTION: 1. STICKY SYRUP  
2. CAN REACT EXOTHERMALLY IF STORED AT HIGH TEMPERATURES.

#### COMPONENT 1    COMPONENT 2    COMPONENT 3

|                     |         |                    |       |
|---------------------|---------|--------------------|-------|
| CHEMICAL NAME:      | SUCROSE | PLANT NON-SUCROSES | WATER |
| CHEMICAL FORMULA:   | C H O   | N.A.               | H O   |
| PERCENT OF PRODUCT: | 12%     | 68%                | 20%   |

### **SECTION III: PHYSICAL AND CHEMICAL DATA**

DESCRIPTION: DARK BROWN SYRUP

DECOMPOSITION: SLOW DECOMPOSITION ABOVE 186 C

VOLATILITY: NIL

SPECIFIC GRAVITY: 1.41

SOLUBILITY: SOLUBLE IN WARM WATER IN ALL PROPORTIONS

pH: 8-9 IN WATER SOLUTION

REACTIVITY: NIL AT NORMAL TEMPERATURE AND USE. CAN REACT EXOTHERMALLY UNDER PROPER CONDITIONS OF INVERT, AMINO ACIDS, AND TEMPERATURES.

PAGE 1 OF 2

**SPECIAL PROTECTION INFORMATION:**

|                         |                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------|
| PROTECTIVE GLOVES:      | N/A                                                                                         |
| EYE PROTECTION:         | N/A                                                                                         |
| RESPIRATORY PROTECTION: | BREATHING APPARATUS MUST BE USED WHEN ENTERING STORAGE TANKS UNLESS THOROUGHLY VENTILLATED. |
| LOCAL EXHAUST:          | STORAGE TANKS SHOULD BE VENTILATED BEFORE ENTRY.                                            |
| OTHER EQUIPMENT:        | LIFE LINE SHOULD BE WORN WHEN ENTERING TANKS.                                               |

**REACTIVITY DATA:**

|                           |                                       |
|---------------------------|---------------------------------------|
| INCOMPATIBLE MATERIALS:   | N/A                                   |
| STABILITY:                | STABLE WHEN STORED AT LESS THAN 140 F |
| HAZARDOUS POLYMERIZATION: | N/A                                   |
| HAZARDOUS DECOMPOSTION:   | N/A                                   |

**SPILL OR LEAK PROCEDURES:**

WASH WITH WATER OR PICK UP WITH ABSORBENT MATERIALS. PREVENT ENTRY TO WATER WAYS WHERE BOD IS A CONCERN.

**SPECIAL INFORMATION: NONE**

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON DATA BELIEVED TO BE CORRECT. NO WARRANTY IS EXPRESSED OR IMPLIED.

## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

#### SECTION 1. IDENTIFICATION

Product name : DIESEL FUEL

Synonyms : Seasonal Diesel, #2 Diesel, #1 Diesel, #2 Heating Oil, #1 Heating Oil, OSX, D50, Arctic Diesel, Farm Diesel, Marine Diesel, Low Sulphur Diesel, LSD, Ultra Low Sulphur Diesel, ULSD, Mining Diesel, Naval Distillate, Dyed Diesel, Marked Diesel, Coloured Diesel, Furnace special, Biodiesel blend, B1, B2, B5, Diesel Low Cloud (LC), Marine Gas Oil, Marine Gas Oil Dyed.

Product code : 103136, 103135, 103134, 103133, 103132, 103131, 101799, 102907, 102762, 102763, 102755, 102302, 102744, 101801, 100678, 100677, 101802, 100107, 100668, 100658, 100911, 100663, 100652, 100460, 100065, 101796, 101793, 101795, 101792, 101794, 101791, 100768, 100643, 100642, 100103, 101798, 101800, 101797, 101788, 101789, 101787, 102531, 100734, 100733, 100640, 100997, 100995, 100732, 100731, 100994

Manufacturer or supplier's details  
Petro-Canada  
P.O. Box 2844, 150 - 6th Avenue South-West  
Calgary Alberta T2P 3E3  
Canada

Emergency telephone number : CHEMTREC: 1-800-424-9300 (toll free) or +1 703-527-3887;  
Suncor Energy: +1 403-296-3000

#### Recommended use of the chemical and restrictions on use

Recommended use : Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining diesels, marine diesels, MDO and naval distillates may have a higher flash point requirement.

Prepared by : Product Safety: +1 905-804-4752

#### SECTION 2. HAZARDS IDENTIFICATION

##### Emergency Overview

|            |                                                                      |
|------------|----------------------------------------------------------------------|
| Appearance | Bright oily liquid.                                                  |
| Colour     | Clear to yellow (This product may be dyed red for taxation purposes) |
| Odour      | Mild petroleum oil like.                                             |

##### GHS Classification

Flammable liquids : Category 3

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## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

|                                                       |                                       |
|-------------------------------------------------------|---------------------------------------|
| Acute toxicity (Inhalation)                           | : Category 4                          |
| Skin irritation                                       | : Category 2                          |
| Carcinogenicity                                       | : Category 2                          |
| Specific target organ toxicity<br>- single exposure   | : Category 3 (Central nervous system) |
| Specific target organ toxicity<br>- repeated exposure | : Category 2 (Liver, thymus, Bone)    |
| Aspiration hazard                                     | : Category 1                          |

#### GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : Flammable liquid and vapour.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
Harmful if inhaled.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.  
May cause damage to organs (Liver, thymus, Bone) 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.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep container tightly closed.  
Ground and bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting equipment.  
Use non-sparking tools.  
Take action to prevent static discharges.  
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
Wash skin thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
IF exposed or concerned: Get medical advice/ attention.  
Do NOT induce vomiting.

## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

If skin irritation occurs: Get medical advice/ attention.  
Take off contaminated clothing and wash it before reuse.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**Potential Health Effects**

Primary Routes of Entry : Eye contact  
Ingestion  
Inhalation  
Skin contact

Aggravated Medical Condition : None known.

**Other hazards**

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Hazardous components**

| Chemical name                                                  | CAS-No.     | Concentration |
|----------------------------------------------------------------|-------------|---------------|
| Kerosine (petroleum), hydrodesulfurized; Kerosine -unspecified | 64742-81-0  | 70 - 100 %    |
| Kerosine (petroleum); Straight run kerosine                    | 8008-20-6   |               |
| Fuels, diesel; Gasoil -unspecified                             | 68334-30-5  |               |
| Alkanes, C10-20-branched and linear                            | 928771-01-1 | 0 - 30 %      |
| Fatty acids, C16-18 and C18-unsatd., Me esters                 | 67762-38-3  | 0 - 20 %      |

All above concentrations are in percent by weight.

### SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.  
Artificial respiration and/or oxygen may be necessary.  
Seek medical advice.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Wash skin thoroughly with soap and water or use recognized skin cleanser.  
Wash clothing before reuse.  
Seek medical advice.

In case of eye contact : Remove contact lenses.  
Rinse immediately with plenty of water, also under the eyelids,

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## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

|                                                             |                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If swallowed                                                | : for at least 15 minutes.<br>Obtain medical attention.<br>: Rinse mouth with water.<br>DO NOT induce vomiting unless directed to do so by a physician or poison control center.<br>Never give anything by mouth to an unconscious person.<br>Seek medical advice. |
| Most important symptoms and effects, both acute and delayed | : Harmful if inhaled.<br>Respiratory, skin and eye irritation; nausea; cancer.                                                                                                                                                                                     |
| Notes to physician                                          | : Treat symptomatically.<br>For specialist advice physicians should contact the Poisons Information Service.                                                                                                                                                       |

#### SECTION 5. FIREFIGHTING MEASURES

|                                               |                                                                                                                                                                                   |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                  | : Dry chemical<br>Carbon dioxide (CO <sub>2</sub> )<br>Water fog.<br>Foam                                                                                                         |
| Unsuitable extinguishing media                | : Do NOT use water jet.                                                                                                                                                           |
| Specific hazards during fire-fighting         | : Cool closed containers exposed to fire with water spray.                                                                                                                        |
| Hazardous combustion products                 | : Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), sulphur oxides (SO <sub>x</sub> ), smoke and irritating vapours as products of incomplete combustion. |
| Further information                           | : Prevent fire extinguishing water from contaminating surface water or the ground water system.                                                                                   |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary.                                                                                                          |

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

|                                                                     |                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : For personal protection see section 8.<br>Ensure adequate ventilation.<br>Evacuate personnel to safe areas.<br>Material can create slippery conditions.                                                                                           |
| Environmental precautions                                           | : If the product contaminates rivers and lakes or drains inform respective authorities.                                                                                                                                                             |
| Methods and materials for containment and cleaning up               | : Prevent further leakage or spillage if safe to do so.<br>Remove all sources of ignition.<br>Soak up with inert absorbent material.<br>Non-sparking tools should be used.<br>Ensure adequate ventilation.<br>Contact the proper local authorities. |

#### SECTION 7. HANDLING AND STORAGE

|                         |                                          |
|-------------------------|------------------------------------------|
| Advice on safe handling | : For personal protection see section 8. |
|-------------------------|------------------------------------------|

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# SAFETY DATA SHEET

## DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

Smoking, eating and drinking should be prohibited in the application area.  
 Use only with adequate ventilation.  
 In case of insufficient ventilation, wear suitable respiratory equipment.  
 Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.  
 Avoid contact with skin, eyes and clothing.  
 Do not ingest.  
 Keep away from heat and sources of ignition.  
 Keep container closed when not in use.

Conditions for safe storage : Store in original container.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Keep in a dry, cool and well-ventilated place.  
 Keep in properly labelled containers.  
 To maintain product quality, do not store in heat or direct sunlight.  
 Ensure the storage containers are grounded/bonded.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

| Components                                                      | CAS-No.    | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis     |
|-----------------------------------------------------------------|------------|----------------------------------|------------------------------------------------|-----------|
| Kerosine (petroleum), hydrodesulfurized; Kerosine - unspecified | 64742-81-0 | TWA                              | 200 mg/m3<br>(As total hydrocarbon vapour)     | ACGIH     |
|                                                                 |            | TWA                              | 200 mg/m3<br>(total hydrocarbon vapor)         | CA AB OEL |
|                                                                 |            | TWA                              | 525 mg/m3                                      | CA ON OEL |
|                                                                 |            | TWA                              | 200 mg/m3<br>(As total hydrocarbon vapour)     | ACGIH     |
|                                                                 |            | TWA                              | 200 mg/m3<br>(total hydrocarbon vapor)         | ACGIH     |
| Kerosine (petroleum); Straight run kerosine                     | 8008-20-6  | TWA                              | 200 mg/m3<br>(total hydrocarbon vapor)         | CA BC OEL |
|                                                                 |            | TWA                              | 200 mg/m3<br>(total hydrocarbon vapor)         | CA AB OEL |
|                                                                 |            | TWA                              | 200 mg/m3<br>(total hydrocarbon vapor)         | ACGIH     |
| Fuels, diesel; Gasoil - unspecified                             | 68334-30-5 | TWA                              | 100 mg/m3<br>(total hydrocarbons)              | CA AB OEL |
|                                                                 |            | TWA (Vapour and                  | 100 mg/m3<br>(total hydrocar-                  | CA BC OEL |

# SAFETY DATA SHEET

## DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

|  |  |                                    |                                |       |
|--|--|------------------------------------|--------------------------------|-------|
|  |  | inhalable aerosols)                | bons)                          |       |
|  |  | TWA (Inhalable fraction and vapor) | 100 mg/m3 (total hydrocarbons) | ACGIH |

### Engineering measures

- : Adequate ventilation to ensure that Occupational Exposure Limits are not exceeded.
- Use only in well-ventilated areas.
- Ensure that eyewash station and safety shower are proximal to the work-station location.

### Personal protective equipment

#### Respiratory protection

- : Concentration in air determines protection needed.
- Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. 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.

#### Filter type

- : organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

#### Hand protection

##### Material

- : neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.

#### Remarks

- : 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.

#### Eye protection

- : Wear face-shield and protective suit for abnormal processing problems.

#### Skin and body protection

- : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

#### Protective measures

##### Hygiene measures

- : Wash contaminated clothing before re-use.
- : Remove and wash contaminated clothing and gloves, including the inside, before re-use.
- Wash face, hands and any exposed skin thoroughly after handling.

## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                        |                                                                                                                                                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appearance                             | : Bright oily liquid.                                                                                                                                                                                                   |
| Colour                                 | : Clear to yellow (This product may be dyed red for taxation purposes)                                                                                                                                                  |
| Odour                                  | : Mild petroleum oil like.                                                                                                                                                                                              |
| Odour Threshold                        | : No data available                                                                                                                                                                                                     |
| pH                                     | : No data available                                                                                                                                                                                                     |
| Melting point                          | : No data available                                                                                                                                                                                                     |
| Boiling point/boiling range            | : 150 - 371 °C (302 - 700 °F)                                                                                                                                                                                           |
| Decomposition temperature              | No data available                                                                                                                                                                                                       |
| Flash point                            | : > 40 °C (104 °F)<br>Method: closed cup                                                                                                                                                                                |
| Auto-Ignition Temperature              | : 225 °C (437 °F)                                                                                                                                                                                                       |
| Evaporation rate                       | : No data available                                                                                                                                                                                                     |
| Flammability                           | : Flammable in presence of open flames, sparks and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. |
| Upper explosion limit                  | : 6 %(V)                                                                                                                                                                                                                |
| Lower explosion limit                  | : 0.7 %(V)                                                                                                                                                                                                              |
| Vapour pressure                        | : 7.5 mmHg (20 °C / 68 °F)                                                                                                                                                                                              |
| Relative vapour density                | : 4.5                                                                                                                                                                                                                   |
| Relative density                       | : 0.8 - 0.88                                                                                                                                                                                                            |
| Solubility(ies)                        |                                                                                                                                                                                                                         |
| Water solubility                       | : insoluble                                                                                                                                                                                                             |
| Partition coefficient: n-octanol/water | : No data available                                                                                                                                                                                                     |
| Viscosity                              |                                                                                                                                                                                                                         |
| Viscosity, kinematic                   | : 1.3 - 4.1 cSt (40 °C / 104 °F)                                                                                                                                                                                        |

#### SECTION 10. STABILITY AND REACTIVITY

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## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

|                                    |                                                                                                                                |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | : Stable at normal ambient temperature and pressure.                                                                           |
| Chemical stability                 | : Stable under normal conditions.                                                                                              |
| Possibility of hazardous reactions | : Hazardous polymerisation does not occur.                                                                                     |
| Conditions to avoid                | : Extremes of temperature and direct sunlight.                                                                                 |
| Incompatible materials             | : Reactive with oxidising agents and acids.                                                                                    |
| Hazardous decomposition products   | : May release CO <sub>x</sub> , NO <sub>x</sub> , SO <sub>x</sub> , smoke and irritating vapours when heated to decomposition. |

#### SECTION 11. TOXICOLOGICAL INFORMATION

##### Information on likely routes of exposure

Eye contact

Ingestion

Inhalation

Skin contact

##### Acute toxicity

###### Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Acute toxicity estimate: 1.2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Remarks: No data available

###### Components:

###### Kerosine (petroleum), hydrodesulfurized; Kerosine -unspecified:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg,

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l  
Exposure time: 4 hrs  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg,

###### Kerosine (petroleum); Straight run kerosine:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg,

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg,

###### Fuels, diesel; Gasoil -unspecified:

Acute oral toxicity : LD50 (Rat): 7,500 mg/kg,

Acute inhalation toxicity : LC50 (Rat): 4.1 mg/l  
Exposure time: 4 h

## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

Test atmosphere: vapour

Acute dermal toxicity

LD50 (Mouse): 24,500 mg/kg

#### Skin corrosion/irritation

##### Product:

Remarks: Causes skin irritation.

#### Serious eye damage/eye irritation

##### Product:

Remarks: No data available

#### Respiratory or skin sensitisation

##### Product:

Remarks: Based on available data, the classification criteria are not met.

#### Germ cell mutagenicity

##### Product:

Genotoxicity in vitro

Remarks: No data available

Genotoxicity in vivo

Remarks: No data available

#### Carcinogenicity

##### Product:

Carcinogenicity - Assessment

Suspected of causing cancer.

#### Reproductive toxicity

##### Product:

Effects on fertility

Remarks: Based on available data, the classification criteria are not met.

#### STOT - single exposure

##### Product:

Remarks: May cause drowsiness or dizziness.

#### STOT - repeated exposure

##### Product:

Remarks: May cause damage to organs through prolonged or repeated exposure.

No data available

## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

#### Aspiration toxicity

##### Product:

May be fatal if swallowed and enters airways.

## SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

##### Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae : Remarks: No data available

Toxicity to bacteria : Remarks: No data available

#### Persistence and degradability

##### Product:

Biodegradability : Remarks: No data available

#### Bioaccumulative potential

No data available

#### Mobility in soil

No data available

#### Other adverse effects

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Offer surplus and non-recyclable solutions to a licensed disposal company.  
Waste must be classified and labelled prior to recycling or disposal.  
Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and national regulations.  
Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

#### SECTION 14. TRANSPORT INFORMATION

##### International Regulations

###### IATA-DGR

UN/ID No. : UN 1202  
Proper shipping name : Diesel fuel  
Class : 3  
Packing group : III  
Labels : Class 3 - Flammable Liquid  
Packing instruction (cargo aircraft) : 366

###### IMDG-Code

UN number : UN 1202  
Proper shipping name : DIESEL FUEL  
Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-E  
Marine pollutant : no

##### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

##### National Regulations

###### TDG

UN number : UN 1202  
Proper shipping name : DIESEL FUEL  
Class : 3  
Packing group : III  
Labels : 3  
ERG Code : 128  
Marine pollutant : no

#### SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

##### The components of this product are reported in the following inventories:

**DSL** On the inventory, or in compliance with the inventory

#### SECTION 16. OTHER INFORMATION

For Copy of SDS : Internet: [www.petro-canada.ca/msds](http://www.petro-canada.ca/msds)  
Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228  
For Product Safety Information: 1 905-804-4752

## SAFETY DATA SHEET

### DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

Prepared by : Product Safety: +1 905-804-4752

Revision Date : 2020/03/09

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# MATERIAL SAFETY DATA SHEET



102 17910 – 55 Ave., Surrey, BC, Canada V3S 6C8 • Toll Free 1-866-535-6699  
Tel: 604-575-6660 Fax: 604-575-5494 e-mail: extreme.ron@telus.net

EXTREME EXTRA HIGH YIELD GEL

EMERGENCY PHONE NO. (604) 575-6660

PAGE 1 OF 4

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 1  
FIRE 0  
REACTIVITY 1  
OTHER: B (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

PRODUCT NAME: EXTREME EXTRA HIGH YIELD GEL  
CHEMICAL IDENTIFICATION: Sodium Montmorillonite  
MATERIAL USE: Drilling Mud Additive  
WHMIS CLASSIFICATION: D-2(A)  
WORK PLACE HAZARD: Low concentrations of free silica in airborne dust.  
Limited evidence as a Carcinogen from inhaled crystalline silica.

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not Dangerous Goods  
PACKAGE GROUP: Not Applicable  
CAS NUMBER: 1302-78-9  
MSDS CODE: Not Applicable

## SECTION 2

## HAZARDOUS INGREDIENTS

|             |                                        |                       |                       |                     |
|-------------|----------------------------------------|-----------------------|-----------------------|---------------------|
| INGREDIENT: | Crystalline Silica (SiO <sub>2</sub> ) | Crystobalite          | Tridymite             | Bentonite Dust      |
| PERCENTAGE: | See Below                              | See Below             | See Below             | See Below           |
| CAS NUMBER: | 14808-60-7                             | 14469-46-1            | 15468-32-3            | 1302-78-9           |
| LD (50):    | Not Determined                         | Not Determined        | N/D                   | N/D                 |
| LC (50):    | Not Determined                         | Not Determined        | N/D                   | N/D                 |
| OSHA PEL:   | .1 mg/M <sup>3</sup>                   | .05 mg/M <sup>3</sup> | .05 mg/M <sup>3</sup> | 5 mg/M <sup>3</sup> |
| ACGIH TVL:  | .1 mg/M <sup>3</sup>                   | .05 mg/M <sup>3</sup> | .05 mg/M <sup>3</sup> | N/D                 |

## EXTREME EXTRA HIGH YIELD GEL

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                                                              |
|-----------------------------|------------------------------------------------------------------------------|
| APPEARANCE AND ODOUR:       | Bluegray to green as moist solid, light tan to gray as dry powder. No odour. |
| DENSITY (SPECIFIC GRAVITY): | 2.4 - 2.55                                                                   |
| BOILING POINT:              | Not Applicable                                                               |
| MELTING POINT:              | Approx. 1450°C                                                               |
| SOLUBILITY:                 | Insoluble, forms colloidal suspension.                                       |
| EVAPORATION RATE: (EE=1):   | N/A                                                                          |
| VAPOUR PRESSURE: (MM HG):   | N/A                                                                          |
| VAPOUR DENSITY: (AIR = 1):  | N/A                                                                          |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                            |
|-------------------------------------|--------------------------------------------|
| FLASHPOINT:                         | N/A                                        |
| FLAMMABLE LIMIT:                    | N/A                                        |
| AUTO IGNITION TEMP:                 | N/A                                        |
| EXTINGUISHING MEDIA:                | None for product. Any media for packaging. |
| SPECIAL FIRE FIGHTING PROCEDURES:   | None                                       |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | None. Product becomes slippery when wet.   |

**SECTION 5****REACTIVITY DATA**

|                                        |        |
|----------------------------------------|--------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | None   |
| HAZARDOUS POLYMERIZATION:              | None   |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | None   |

## MATERIAL SAFETY DATA SHEET

## EXTREME EXTRA HIGH YIELD GEL

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

(X) INHALATION

(X) INGESTION

## SKIN CONTACT:

## EYE CONTACT:

## INHALATION:

Possible drying resulting in dermatitis.

Mechanical Irritant

Acute (short term): Dust levels exceeding PEL may cause irritation of upper respiratory tract.

Chronic (long term): Exposure to dust levels higher than TLV may lead to silicosis or other respiratory problems.

## INGESTION:

No adverse effects.

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

## EYE PROTECTION:

## VENTILATION:

## RESPIRATORY PROTECTION:

## LEAK &amp; SPILL PROCEDURE:

## WASTE DISPOSAL:

## STORAGE REQUIREMENTS:

Generally not necessary.

Goggles may be preferred if dusty conditions develop.

Mechanical, general room ventilation. Use local ventilation to maintain REL's/TLV's.

Use respirators approved by NIOSH/MSHA for silica dust.

Avoid breathing dust. Wear silica approved respirator. Vacuum up to avoid generating dust.

Avoid using water, product becomes slippery.

Dispose of in compliance with local and government regulations.

Store in dry area. Product becomes slippery when wet.

## MATERIAL SAFETY DATA SHEET

## EXTREME EXTRA HIGH YIELD GEL

**SECTION 8****FIRST AID MEASURES**

SKIN:

Wash with soap and water until clean.

EYE:

Flush with water until irritation ceases.

INHALATION:

Move to dust free area. Inhalation may aggravate existing respiratory illness. Seek medical attention if symptoms persist.

INGESTION:

No adverse effects from small quantities.

**SECTION 9****PREPARATION DATE**

DATE ISSUED:

AUGUST 20, 1996

DATE REVISED:

JANUARY 01, 2012

BY:

PRODUCT SAFETY COMMITTEE

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**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

**SECTION 1. IDENTIFICATION**

Product name : GASOLINE, UNLEADED

Synonyms : TN-PE-TM15-X00-1499; Regular, Unleaded Gasoline (US Grade), Mid-Grade, Plus, Super, WinterGas, SummerGas, Supreme, SuperClean, SuperClean WinterGas, Regular-Clean, PlusClean, Premium, marked or dyed gasoline, TQRUL, transitional quality regular unleaded, BOB, Blend-stock for Oxygenate Blending, Conventional Gasoline, RUL, MUL, SUL, PUL.

Product code : 100127, 100126, 101823, 100507, 101811, 101814, 100141, 101813, 101810, 101812, 100063, 101822, 100138, 101821, 100064, 101820, 101819, 100506, 101818, 101816, 101817, 100488

Manufacturer or supplier's details  
Petro-Canada  
P.O. Box 2844, 150 - 6th Avenue South-West  
Calgary Alberta T2P 3E3  
Canada

Emergency telephone number  
Suncor Energy: +1 403-296-3000;  
Canutec Transportation: 1-888-226-8832 (toll-free) or 613-996-6666;  
Poison Control Centre: Consult local telephone directory for emergency number(s).

**Recommended use of the chemical and restrictions on use**

Recommended use : Unleaded gasoline is used in spark ignition engines including motor vehicles, inboard and outboard boat engines, small engines such as chain saws and lawn mowers, and recreational vehicles.

Prepared by : Product Safety: +1 905-804-4752

**SECTION 2. HAZARDS IDENTIFICATION**

**Emergency Overview**

|            |                                                                                          |
|------------|------------------------------------------------------------------------------------------|
| Appearance | Clear liquid.                                                                            |
| Colour     | Clear to slightly yellow or green, undyed liquid. May be dyed red for taxation purposes. |
| Odour      | Gasoline                                                                                 |

**GHS Classification**

Flammable liquids : Category 1

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# SAFETY DATA SHEET

## GASOLINE, UNLEADED



000003000644

Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

|                                                       |                                       |
|-------------------------------------------------------|---------------------------------------|
| Skin irritation                                       | : Category 2                          |
| Germ cell mutagenicity                                | : Category 1B                         |
| Carcinogenicity                                       | : Category 1A                         |
| Reproductive toxicity                                 | : Category 2                          |
| Specific target organ toxicity<br>- single exposure   | : Category 3 (Central nervous system) |
| Specific target organ toxicity<br>- repeated exposure | : Category 1                          |
| Aspiration hazard                                     | : Category 1                          |

### GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : Extremely flammable liquid and vapour.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
May cause drowsiness or dizziness.  
May cause genetic defects.  
May cause cancer.  
Suspected of damaging fertility or the unborn child.  
Causes damage to organs 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.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep container tightly closed.  
Ground and bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting equipment.  
Use non-sparking tools.  
Take action to prevent static discharges.  
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
IF exposed or concerned: Get medical advice/ attention.  
Do NOT induce vomiting.  
If skin irritation occurs: Get medical advice/ attention.  
Take off contaminated clothing and wash it before reuse.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**Potential Health Effects**

Primary Routes of Entry : Eye contact  
Ingestion  
Inhalation  
Skin contact

Aggravated Medical Condition : None known.

**Other hazards**

None known.

**IARC**

Group 1: Carcinogenic to humans

Benzene 71-43-2

**ACGIH**

Confirmed human carcinogen

Benzene 71-43-2

Confirmed animal carcinogen with unknown relevance to humans

Gasoline 86290-81-5

Ethanol 64-17-5

---

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

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**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

| Chemical name                                    | CAS-No.    | Concentration |
|--------------------------------------------------|------------|---------------|
| Gasoline; Low boiling point naphtha -unspecified | 86290-81-5 | 95 - 100 %    |
| toluene                                          | 108-88-3   | 1 - 40 %      |
| benzene                                          | 71-43-2    | 0.5 - 1.5 %   |
| ethanol                                          | 64-17-5    | 0.1 - 0.3 %   |

All above concentrations are in percent by weight.

**SECTION 4. FIRST AID MEASURES**

- If inhaled : Move to fresh air.  
Artificial respiration and/or oxygen may be necessary.  
Seek medical advice.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Wash skin thoroughly with soap and water or use recognized skin cleanser.  
Wash clothing before reuse.  
Seek medical advice.
- In case of eye contact : Remove contact lenses.  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Obtain medical attention.
- If swallowed : Rinse mouth with water.  
DO NOT induce vomiting unless directed to do so by a physician or poison control center.  
Never give anything by mouth to an unconscious person.  
Seek medical advice.
- Most important symptoms and effects, both acute and delayed : Inhalation may cause central nervous system effects.  
Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.  
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.  
Chronic exposure to benzene may result in increased risk of leukemia and other blood disorders.
- Notes to physician : Treat symptomatically.  
Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Dry chemical  
Carbon dioxide (CO<sub>2</sub>)  
Water fog.  
Foam

**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**



000003000644

Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

|                                               |                                                                                                                                                                                                                |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unsuitable extinguishing media                | : Do NOT use water jet.                                                                                                                                                                                        |
| Specific hazards during fire-fighting         | : Cool closed containers exposed to fire with water spray.                                                                                                                                                     |
| Hazardous combustion products                 | : Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), polynuclear aromatic hydrocarbons, phenols, aldehydes, ketones, smoke and irritating vapours as products of incomplete combustion. |
| Further information                           | : Prevent fire extinguishing water from contaminating surface water or the ground water system.                                                                                                                |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus and full protective wear.<br>Wear a positive-pressure supplied-air respirator with full face-piece.                                                                  |

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

|                                                                     |                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : For personal protection see section 8.<br>Ensure adequate ventilation.<br>Evacuate personnel to safe areas.<br>Material can create slippery conditions.                                                                                           |
| Environmental precautions                                           | : If the product contaminates rivers and lakes or drains inform respective authorities.                                                                                                                                                             |
| Methods and materials for containment and cleaning up               | : Prevent further leakage or spillage if safe to do so.<br>Remove all sources of ignition.<br>Soak up with inert absorbent material.<br>Non-sparking tools should be used.<br>Ensure adequate ventilation.<br>Contact the proper local authorities. |

---

**SECTION 7. HANDLING AND STORAGE**

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Advice on safe handling     | : For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Use only with adequate ventilation.<br>In case of insufficient ventilation, wear suitable respiratory equipment.<br>Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.<br>Avoid contact with skin, eyes and clothing.<br>Do not ingest.<br>Keep away from heat and sources of ignition.<br>Keep container closed when not in use. |
| Conditions for safe storage | : Store in original container.<br>Containers which are opened must be carefully resealed and kept upright to prevent leakage.                                                                                                                                                                                                                                                                                                                                                                                                      |

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**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

Keep in a dry, cool and well-ventilated place.  
 Keep in properly labelled containers.  
 To maintain product quality, do not store in heat or direct sunlight.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

| Components                                       | CAS-No.    | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis     |
|--------------------------------------------------|------------|----------------------------------|------------------------------------------------|-----------|
| toluene                                          | 108-88-3   | TWA                              | 50 ppm<br>188 mg/m3                            | CA AB OEL |
|                                                  |            | TWA                              | 20 ppm                                         | CA BC OEL |
|                                                  |            | TWAEV                            | 50 ppm<br>188 mg/m3                            | CA QC OEL |
|                                                  |            | TWA                              | 20 ppm                                         | ACGIH     |
| benzene                                          | 71-43-2    | TWA                              | 0.5 ppm<br>1.6 mg/m3                           | CA AB OEL |
|                                                  |            | STEL                             | 2.5 ppm<br>8 mg/m3                             | CA AB OEL |
|                                                  |            | TWA                              | 0.5 ppm                                        | CA BC OEL |
|                                                  |            | STEL                             | 2.5 ppm                                        | CA BC OEL |
|                                                  |            | TWA                              | 0.5 ppm                                        | CA ON OEL |
|                                                  |            | STEL                             | 2.5 ppm                                        | CA ON OEL |
|                                                  |            | TWAEV                            | 1 ppm<br>3 mg/m3                               | CA QC OEL |
|                                                  |            | STEV                             | 5 ppm<br>15.5 mg/m3                            | CA QC OEL |
|                                                  |            | TWA                              | 0.5 ppm                                        | ACGIH     |
|                                                  |            | STEL                             | 2.5 ppm                                        | ACGIH     |
| Gasoline; Low boiling point naphtha -unspecified | 86290-81-5 | TWA                              | 300 ppm                                        | CA AB OEL |
|                                                  |            | STEL                             | 500 ppm                                        | CA AB OEL |
|                                                  |            | TWA                              | 300 ppm                                        | CA BC OEL |
|                                                  |            | STEL                             | 500 ppm                                        | CA BC OEL |
|                                                  |            | TWA                              | 300 ppm                                        | ACGIH     |
|                                                  |            | STEL                             | 500 ppm                                        | ACGIH     |
| ethanol                                          | 64-17-5    | TWA                              | 1,000 ppm<br>1,880 mg/m3                       | CA AB OEL |
|                                                  |            | STEL                             | 1,000 ppm                                      | CA BC OEL |
|                                                  |            | TWAEV                            | 1,000 ppm<br>1,880 mg/m3                       | CA QC OEL |
|                                                  |            | STEL                             | 1,000 ppm                                      | ACGIH     |

**Biological occupational exposure limits**

| Components | CAS-No.  | Control parameters | Biological specimen | Sampling time                | Permissible concentration | Basis     |
|------------|----------|--------------------|---------------------|------------------------------|---------------------------|-----------|
| Toluene    | 108-88-3 | Toluene            | In blood            | Prior to last shift of work- | 0.02 mg/l                 | ACGIH BEI |

**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

|  |  |         |       |                                                                                    |           |              |
|--|--|---------|-------|------------------------------------------------------------------------------------|-----------|--------------|
|  |  | Toluene | Urine | week<br>End of<br>shift (As<br>soon as<br>possible<br>after<br>exposure<br>ceases) | 0.03 mg/l | ACGIH<br>BEI |
|--|--|---------|-------|------------------------------------------------------------------------------------|-----------|--------------|

**Engineering measures**

- : Adequate ventilation to ensure that Occupational Exposure Limits are not exceeded.
- Use only in well-ventilated areas.
- Ensure that eyewash station and safety shower are proximal to the work-station location.

**Personal protective equipment**

Respiratory protection

- : Concentration in air determines protection needed.
- Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. 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.

Filter type

- : A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection  
Material

- : polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.

Remarks

- : 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.

Eye protection

- : Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection

- : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

|                     |                                                                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protective measures | : Wash contaminated clothing before re-use.                                                                                                                  |
| Hygiene measures    | : Remove and wash contaminated clothing and gloves, including the inside, before re-use.<br>Wash face, hands and any exposed skin thoroughly after handling. |

---

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

|                                        |                                                                                                                                                                                                                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appearance                             | : Clear liquid.                                                                                                                                                                                                                                                                             |
| Colour                                 | : Clear to slightly yellow or green, undyed liquid. May be dyed red for taxation purposes.                                                                                                                                                                                                  |
| Odour                                  | : Gasoline                                                                                                                                                                                                                                                                                  |
| Odour Threshold                        | : No data available                                                                                                                                                                                                                                                                         |
| pH                                     | : No data available                                                                                                                                                                                                                                                                         |
| Melting point                          | : No data available                                                                                                                                                                                                                                                                         |
| Boiling point/boiling range            | : 25 - 225 °C (77 - 437 °F)                                                                                                                                                                                                                                                                 |
| Decomposition temperature              | No data available                                                                                                                                                                                                                                                                           |
| Flash point                            | : -50 - -38 °C (-58 - -36 °F)<br>Method: Tagliabue.                                                                                                                                                                                                                                         |
| Auto-Ignition Temperature              | : 257 °C (495 °F)                                                                                                                                                                                                                                                                           |
| Evaporation rate                       | : No data available                                                                                                                                                                                                                                                                         |
| Flammability                           | : Extremely flammable in presence of open flames, sparks, shocks, and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. Rapid escape of vapour may generate static charge causing ignition. May accumulate in confined spaces. |
| Upper explosion limit                  | : 7.6 %(V)                                                                                                                                                                                                                                                                                  |
| Lower explosion limit                  | : 1.3 %(V)                                                                                                                                                                                                                                                                                  |
| Vapour pressure                        | : < 802.5 mmHg (20 °C / 68 °F)                                                                                                                                                                                                                                                              |
| Relative vapour density                | : 3                                                                                                                                                                                                                                                                                         |
| Relative density                       | : 0.685 - 0.8                                                                                                                                                                                                                                                                               |
| Solubility(ies)                        |                                                                                                                                                                                                                                                                                             |
| Water solubility                       | : insoluble                                                                                                                                                                                                                                                                                 |
| Partition coefficient: n-octanol/water | : No data available                                                                                                                                                                                                                                                                         |

**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

Viscosity  
Viscosity, kinematic : No data available

---

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : Reactive with oxidising agents, acids and interhalogens.

Hazardous decomposition products : May release CO<sub>x</sub>, NO<sub>x</sub>, phenols, polycyclic aromatic hydrocarbons, aldehydes, ketones, smoke and irritating vapours when heated to decomposition.

---

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

Eye contact  
Ingestion  
Inhalation  
Skin contact

**Acute toxicity**

**Product:**

Acute oral toxicity : Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : Remarks: Based on available data, the classification criteria are not met.

**Components:**

**Gasoline; Low boiling point naphtha -unspecified:**

Acute oral toxicity : LD50 (Rat): 13,600 mg/kg,

Acute dermal toxicity : LD50 (Rabbit): > 3,750 mg/kg,

**toluene:**

Acute oral toxicity : LD50 (Rat): 5,580 mg/kg,

Acute inhalation toxicity : LC50 (Rat): 7585 ppm

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**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 12,125 mg/kg,

**benzene:**

Acute oral toxicity : LD50 (Rat): 2,990 mg/kg,

Acute inhalation toxicity : LC50 (Rat): 13700 ppm  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 8,240 mg/kg,

**ethanol:**

Acute oral toxicity : LD50 (Rat): 7,060 mg/kg,

Acute inhalation toxicity : LC50 (Rat): > 32380 ppm  
Exposure time: 4 h  
Test atmosphere: vapour

**Skin corrosion/irritation**

**Product:**

Remarks: Causes skin irritation.

**Serious eye damage/eye irritation**

**Product:**

Remarks: Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation**

**Product:**

Remarks: Based on available data, the classification criteria are not met.

**Germ cell mutagenicity**

**Product:**

Germ cell mutagenicity-  
Assessment : May cause genetic defects.

**Carcinogenicity**

**Product:**

Carcinogenicity - As-  
sessment : May cause cancer.

**Reproductive toxicity**

**Product:**

Reproductive toxicity - : Suspected of damaging fertility or the unborn child.

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**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

Assessment

**STOT - single exposure**

**Product:**

Remarks: May cause drowsiness or dizziness.

**STOT - repeated exposure**

**Product:**

Remarks: Causes damage to organs through prolonged or repeated exposure.

No data available

**Aspiration toxicity**

**Product:**

May be fatal if swallowed and enters airways.

---

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Product:**

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other :  
aquatic invertebrates Remarks: No data available

Toxicity to algae : Remarks: No data available

Toxicity to bacteria : Remarks: No data available

**Persistence and degradability**

**Product:**

Biodegradability : Remarks: No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

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**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Offer surplus and non-recyclable solutions to a licensed disposal company.  
Waste must be classified and labelled prior to recycling or disposal.  
Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and national regulations.  
Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

---

**SECTION 14. TRANSPORT INFORMATION**

**International Regulations**

**IATA-DGR**

UN/ID No. : UN 1203  
Proper shipping name : Gasoline  
Class : 3  
Packing group : II  
Labels : Class 3 - Flammable Liquid  
Packing instruction (cargo aircraft) : 364

**IMDG-Code**

UN number : UN 1203  
Proper shipping name : GASOLINE  
  
Class : 3  
Packing group : II  
Labels : 3  
EmS Code : F-E, S-E  
Marine pollutant : no

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

**National Regulations**

**TDG**

UN number : UN 1203  
Proper shipping name : GASOLINE  
  
Class : 3  
Packing group : II  
Labels : 3  
ERG Code : 128  
Marine pollutant : no

**SAFETY DATA SHEET**  
**GASOLINE, UNLEADED**

**000003000644**



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

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**SECTION 15. REGULATORY INFORMATION**

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

**The components of this product are reported in the following inventories:**

**DSL** On the inventory, or in compliance with the inventory

---

**SECTION 16. OTHER INFORMATION**

For Copy of SDS : Internet: [www.petro-canada.ca/msds](http://www.petro-canada.ca/msds)  
Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228  
For Product Safety Information: 1 905-804-4752

Prepared by : Product Safety: +1 905-804-4752

Revision Date : 2019/06/14

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.

# MATERIAL SAFETY DATA SHEET



102-17910 55 Ave., Surrey, BC, Canada V3S 6C8 • Toll Free 1-866-535-6699  
Tel: 604-575-6660 Fax: 604-575-5494 e-mail: extreme.ron@telus.net

EXTREME ENVIRO COTE

EMERGENCY PHONE NO. (604) 575-6660

PAGE 1 OF 4

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 0  
FIRE 1  
REACTIVITY 0  
OTHER: B (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

PRODUCT NAME: EXTREME ENVIRO COTE  
CHEMICAL IDENTIFICATION: Base Oil and Additives  
MATERIAL USE: Lubricating Grease  
WHMIS CLASSIFICATION: N/A  
WORK PLACE HAZARD: N/A

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not Dangerous Goods  
PACKAGE GROUP: N/A  
CAS NUMBER: N/A  
MSDS CODE: N/A

## SECTION 2

## HAZARDOUS INGREDIENTS

INGREDIENT: Base Oil and Additives  
PERCENTAGE: 100%  
CAS NUMBER: 471-34-1  
LD (50): (Rat) >2000mg/kg MINIMALLY TOXIC  
LC (50): (Rat) >5000mg/m<sup>3</sup> MINIMALLY TOXIC

## EXTREME ENVIRO COTE

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                            |
|-----------------------------|--------------------------------------------|
| APPEARANCE AND ODOUR:       | Semi Fluid, White, Slight Hydrocarbon Odor |
| DENSITY (SPECIFIC GRAVITY): | 0.88                                       |
| BOILING POINT:              | >371°C                                     |
| MELTING POINT:              | Not Available                              |
| SOLUBILITY:                 | Negligible                                 |
| EVAPORATION RATE: (EE=1):   | Not Available                              |
| VAPOUR PRESSURE: (MM HG):   | >0.013 kPa                                 |
| VAPOUR DENSITY: (AIR = 1):  | Not Available                              |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                                                                  |
|-------------------------------------|--------------------------------------------------------------------------------------------------|
| FLASHPOINT:                         | 249°C                                                                                            |
| FLAMMABLE LIMIT:                    | Not Available                                                                                    |
| AUTO IGNITION TEMP:                 | Not Available                                                                                    |
| EXTINGUISHING MEDIA:                | Dry Chemical, Foam, Water Fog, CO <sub>2</sub> , Do Not Spray with Straight Streams of Water     |
| SPECIAL FIRE FIGHTING PROCEDURES:   | Prevent runoff from fire control from entering streams, watercourses and drinking water sources. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | None currently known.                                                                            |

**SECTION 5****REACTIVITY DATA**

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable under normal conditions                      |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong Oxidizers                                    |
| HAZARDOUS POLYMERIZATION:              | Will not occur                                      |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | Material does not decompose at ambient temperatures |

## MATERIAL SAFETY DATA SHEET

EXTREME ENVIRO COTE

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

(X) INHALATION

(X) INGESTION

## SKIN CONTACT:

If product is injected into or under the skin the individual should be evaluated immediately by a physician as a surgical emergency.

## EYE CONTACT:

If contact is likely, safety glasses with side shields are recommended.

## INHALATION:

No protection is ordinarily required under normal conditions of use with adequate ventilation.

## INGESTION:

First Aid is normally not required. Seek medical attention if discomfort occurs.

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

Impervious gloves and protective clothing as required.

## EYE PROTECTION:

No special requirements under normal conditions.

## VENTILATION:

No special requirements under normal conditions.

## RESPIRATORY PROTECTION:

None required under normal use.

## LEAK &amp; SPILL PROCEDURE:

Contain and gather up with use of absorbent material.

## WASTE DISPOSAL:

Dispose of in compliance with local and government regulations.

## STORAGE REQUIREMENTS:

Store in a cool, dry area. Keep containers closed when not in use.

## EXTREME ENVIRO COTE

## MATERIAL SAFETY DATA SHEET

**SECTION 8****FIRST AID MEASURES**

|             |                                                                                                                                                                                            |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SKIN:       | Wipe excess from skin. Wash with mild soap and water. If product is injected into or under the skin the individual should be evaluated immediately by a physician as a surgical emergency. |
| EYE:        | Flush thoroughly with water for at least 15 minutes. If irritation occurs seek medical attention.                                                                                          |
| INHALATION: | At normal handling temperatures, minimal or no irritation due to inhalation.                                                                                                               |
| INGESTION:  | First aid is normally not required. Seek medical attention if discomfort occurs.                                                                                                           |

**SECTION 9****PREPARATION DATE**

|               |                          |
|---------------|--------------------------|
| DATE ISSUED:  | AUGUST 20, 1996          |
| DATE REVISED: | JANUARY 01, 2012         |
| BY:           | PRODUCT SAFETY COMMITTEE |

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# SAFETY DATA SHEET

Lucas Extreme Duty Gun Grease



## Section 1. Identification

**GHS product identifier** : Lucas Extreme Duty Gun Grease

**Other means of identification** : Not available.

**Product number** : 10889, 10919

### Identified uses

Not available.

### Supplier's details

: Lucas Oil Products, Inc  
302 North Sheridan Street  
Corona, California 92880-2067  
Toll Free: (800) 342-2512  
Tel: (951) 270-0154  
Fax: (951) 270-1902  
Website: www.LucasOil.com

### Emergency telephone number (with hours of operation)

: (951) 493-1149  
(951) 847-5949  
Markn@lucasoil.com

7:00A.M. to 5:00P.M. Monday thru Friday

## 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/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

### GHS label elements

#### Hazard pictograms



#### Signal word

: Warning

#### Hazard statements

: Causes serious eye irritation.  
Causes skin irritation.

### Precautionary statements

#### General

: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

#### Prevention

: Wear protective gloves. Wear eye or face protection. Wash hands thoroughly after handling.



KMK Regulatory Services

Tel : +1-888-GHS-7769 (447-7769) / +1-450-GHS-7767 (447-7767)  
www.kmkregservices.com www.askdrluc.com www.ghssmart.com

1/11



## Section 2. Hazards identification

|                                         |                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Response</b>                         | : IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical 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 attention. |
| <b>Storage</b>                          | : Not applicable.                                                                                                                                                                                                                                                                                                                                                |
| <b>Disposal</b>                         | : Not applicable.                                                                                                                                                                                                                                                                                                                                                |
| <b>Hazards not otherwise classified</b> | : None known.                                                                                                                                                                                                                                                                                                                                                    |

## Section 3. Composition/information on ingredients

|                                      |                  |
|--------------------------------------|------------------|
| <b>Substance/mixture</b>             | : Mixture        |
| <b>Other means of identification</b> | : Not available. |

### CAS number/other identifiers

|                     |                   |
|---------------------|-------------------|
| <b>CAS number</b>   | : Not applicable. |
| <b>Product code</b> | :                 |

| <b>Ingredient name</b>            | <b>%</b> | <b>CAS number</b> |
|-----------------------------------|----------|-------------------|
| Antimony, dialkyl dithiocarbamate | 5 - 10   | 15890-25-2        |
| Butene, homopolymer               | 1 - 5    | 9003-29-5         |
| Lithium hydroxide, monohydrate    | 1 - 5    | 1310-66-3         |

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

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye contact</b>  | : 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 20 minutes. Get medical attention.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Inhalation</b>   | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if adverse health effects persist or are severe. 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. 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. |
| <b>Skin contact</b> | : Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |





## Section 4. First aid measures

**Ingestion** : 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. Get medical attention if adverse health effects persist or are severe. 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 irritation.  
**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Skin contact** : Causes skin irritation.  
**Ingestion** : Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
**Ingestion** : No known significant effects or critical hazards.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : 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.  
**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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** : No specific fire or explosion hazard.





## Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
Sulfur oxides  
metal oxide/oxides
- Special protective actions for fire-fighters** : No special measures are required.
- 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. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing 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). 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 ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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. 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. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name                   | Exposure limits                                                                                                                                                                                                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antimony, dialkyl dithiocarbamate | ACGIH TLV (United States, 6/2013).<br>TWA: 0.5 mg/m <sup>3</sup> , (as Sb) 8 hours.<br>OSHA PEL (United States, 2/2013).<br>TWA: 0.5 mg/m <sup>3</sup> , (as Sb) 8 hours.<br>NIOSH REL (United States, 4/2013).<br>TWA: 0.5 mg/m <sup>3</sup> , (as Sb) 10 hours. |

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### 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 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.

### 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.

**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** : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.





## Section 9. Physical and chemical properties

### Appearance

|                                              |                               |
|----------------------------------------------|-------------------------------|
| Physical state                               | : Liquid. [Grease.]           |
| Color                                        | : Blue.                       |
| Odor                                         | : Grape.                      |
| Odor threshold                               | : Not available.              |
| pH                                           | : Not available.              |
| Melting point                                | : Not available.              |
| Boiling point                                | : Not available.              |
| Flash point                                  | : Closed cup: >200°C (>392°F) |
| Evaporation rate                             | : Not available.              |
| Flammability (solid, gas)                    | : Not available.              |
| Lower and upper explosive (flammable) limits | : Not available.              |
| Vapor pressure                               | : Not available.              |
| Vapor density                                | : >1 [Air = 1]                |
| Relative density                             | : 0.92                        |
| Solubility                                   | : Negligible.                 |
| Partition coefficient: n-octanol/water       | : Not available.              |
| Auto-ignition temperature                    | : Not available.              |
| Decomposition temperature                    | : Not available.              |
| Viscosity                                    | : Not available.              |

## Section 10. Stability and reactivity

|                                    |                                                                                                        |
|------------------------------------|--------------------------------------------------------------------------------------------------------|
| Reactivity                         | : No specific test data related to reactivity available for this product or its ingredients.           |
| Chemical stability                 | : The product is stable.                                                                               |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| Conditions to avoid                | : High temperatures, sparks, or open flames.                                                           |
| 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

#### Acute toxicity

| Product/ingredient name           | Result      | Species | Dose        | Exposure |
|-----------------------------------|-------------|---------|-------------|----------|
| Antimony, dialkyl dithiocarbamate | LD50 Dermal | Rabbit  | 16000 mg/kg | -        |
|                                   | LD50 Oral   | Rat     | 16400 mg/kg | -        |





## Section 11. Toxicological information

### Irritation/Corrosion

There is no data available.

### Sensitization

There is no data available.

### Carcinogenicity

There is no data available.

### Specific target organ toxicity (single exposure)

There is no data available.

### Specific target organ toxicity (repeated exposure)

There is no data available.

### Aspiration hazard

| Name                | Result                         |
|---------------------|--------------------------------|
| Butene, homopolymer | ASPIRATION HAZARD - Category 1 |

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Skin contact** : Causes skin irritation.  
**Ingestion** : Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
**Ingestion** : No known significant effects or critical hazards.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

**Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.

### Potential chronic health effects

**General** : No known significant effects or critical hazards.





## Section 11. Toxicological information

|                              |                                                     |
|------------------------------|-----------------------------------------------------|
| <b>Carcinogenicity</b>       | : No known significant effects or critical hazards. |
| <b>Mutagenicity</b>          | : No known significant effects or critical hazards. |
| <b>Teratogenicity</b>        | : No known significant effects or critical hazards. |
| <b>Developmental effects</b> | : No known significant effects or critical hazards. |
| <b>Fertility effects</b>     | : No known significant effects or critical hazards. |

### Numerical measures of toxicity

#### Acute toxicity estimates

| Route | ATE value   |
|-------|-------------|
| Oral  | 16835 mg/kg |

## Section 12. Ecological information

### Toxicity

There is no data available.

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF         | Potential |
|-------------------------|--------------------|-------------|-----------|
| Butene, homopolymer     | 7.6 to 7.8         | 314 to 1882 | high      |

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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 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 empty 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 | IMDG           | IATA           |
|----------------------------|--------------------|----------------|----------------|
| UN number                  | Not regulated.     | Not regulated. | Not regulated. |
| UN proper shipping name    |                    |                | -              |
| Transport hazard class(es) | -                  | -              | -              |
| Packing group              | -                  | -              | -              |
| Environmental hazards      | No.                | No.            | No.            |
| Additional information     | -                  | -              | -              |

AERG : Not applicable.

**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 73/78 and the IBC Code** : Not available.

**Section 15. Regulatory information**

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
 United States inventory (TSCA 8b): All components are listed or exempted.  
 Clean Water Act (CWA) 307: Antimony, dialkyl dithiocarbamate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

**SARA 302/304****Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.





## Section 15. Regulatory information

### SARA 311/312

**Classification** : Immediate (acute) health hazard

### Composition/information on ingredients

| Name                           | %     | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|--------------------------------|-------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Butene, homopolymer            | 1 - 5 | No.         | No.                        | No.      | Yes.                            | No.                             |
| Lithium hydroxide, monohydrate | 1 - 5 | No.         | No.                        | No.      | Yes.                            | No.                             |

### SARA 313

|                                        | Product name                      | CAS number | %      |
|----------------------------------------|-----------------------------------|------------|--------|
| <b>Form R - Reporting requirements</b> | Antimony, dialkyl dithiocarbamate | 15890-25-2 | 5 - 10 |
| <b>Supplier notification</b>           | Antimony, dialkyl dithiocarbamate | 15890-25-2 | 5 - 10 |

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** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Distillates (petroleum), hydrotreated heavy naphthenic; Distillates (petroleum), solvent-refined heavy paraffinic; Antimony, dialkyl dithiocarbamate; Lithium hydroxide, monohydrate

**Pennsylvania** : The following components are listed: Antimony, dialkyl dithiocarbamate

### California Prop. 65

No products were found.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

**Health** : 2 \* **Flammability** : 1 **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 are not required on SDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.)

**Health** : 2 **Flammability** : 1 **Instability** : 0

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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.

### History

**Date of issue mm/dd/yyyy** : 02/15/2015



KMK Regulatory Services

Tel : +1-888-GHS-7769 (447-7769) / +1-450-GHS-7767 (447-7767)  
www.kmkregservices.com www.askdrluc.com www.ghssmart.com

10/11



## Section 16. Other information

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version              | : 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Revised Section(s)   | : Not applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Prepared by          | : KMK Regulatory Services Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Key to abbreviations | : ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>UN = United Nations |

### 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.



## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

#### SECTION 1. IDENTIFICATION

Product name : JET A/A-1 AVIATION TURBINE FUEL

Synonyms : Jet A-1; Jet A-1-DI; Aviation Turbine Kerosene (ATK); JP-8; NATO F-34; Jet F-34; Aviation Turbine Fuel, Kerosene Type (CAN/CGSB 3.23 & CAN/CGSB 3.24)

Product code : 101851, 100123

Manufacturer or supplier's details  
Petro-Canada  
P.O. Box 2844, 150 - 6th Avenue South-West  
Calgary Alberta T2P 3E3  
Canada

Emergency telephone number  
Suncor Energy: +1 403-296-3000;  
Canutec Transportation: 1-888-226-8832 (toll-free) or 613-996-6666;  
Poison Control Centre: Consult local telephone directory for emergency number(s).

#### Recommended use of the chemical and restrictions on use

Recommended use : Used as aviation turbine fuel. May contain a fuel system icing inhibitor. In the arctic, Jet A-1 may also be used as diesel fuel (if it contains a lubricity additive) and heating oil.

Prepared by : Product Safety: +1 905-804-4752

#### SECTION 2. HAZARDS IDENTIFICATION

##### Emergency Overview

|            |                      |
|------------|----------------------|
| Appearance | Clear liquid.        |
| Colour     | Clear and colourless |
| Odour      | Kerosene-like.       |

##### GHS Classification

Flammable liquids : Category 3

Skin irritation : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

Aspiration hazard : Category 1

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## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

#### GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Flammable liquid and vapour.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
May cause drowsiness or dizziness.  
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.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep container tightly closed.  
Ground and bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
Use non-sparking tools.  
Take action to prevent static discharges.  
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
Wash skin thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
IF exposed or concerned: Get medical advice/ attention.  
Do NOT induce vomiting.  
If skin irritation occurs: Get medical advice/ attention.  
Take off contaminated clothing and wash it before reuse.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
**Storage:**  
Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
**Disposal:**  
Dispose of contents/ container to an approved waste disposal plant.

#### Potential Health Effects

Primary Routes of Entry

: Eye contact  
Ingestion

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## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

|                              |                                                                                                                                                                                            |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | Inhalation<br>Skin contact                                                                                                                                                                 |
| Inhalation                   | : Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. |
| Skin                         | : May irritate skin.                                                                                                                                                                       |
| Eyes                         | : May irritate eyes.                                                                                                                                                                       |
| Ingestion                    | : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.<br>Aspiration hazard if swallowed - can enter lungs and cause damage.                                   |
| Aggravated Medical Condition | : None known.                                                                                                                                                                              |

#### Other hazards

None known.

#### IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### ACGIH

Confirmed animal carcinogen with unknown relevance to humans

Kerosene

8008-20-6

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Hazardous components

| Chemical name              | CAS-No.   | Concentration |
|----------------------------|-----------|---------------|
| kerosine (petroleum)       | 8008-20-6 | 90 - 100 %    |
| 2-(2-methoxyethoxy)ethanol | 111-77-3  | 0 - 0.2 %     |

## SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.  
Artificial respiration and/or oxygen may be necessary.  
Seek medical advice.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing

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## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

|                                                             |                                                                                                                                                                                                         |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                             | and shoes.<br>Wash skin thoroughly with soap and water or use recognized skin cleanser.<br>Wash clothing before reuse.<br>Seek medical advice.                                                          |
| In case of eye contact                                      | : Remove contact lenses.<br>Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.<br>Obtain medical attention.                                                       |
| If swallowed                                                | : Rinse mouth with water.<br>DO NOT induce vomiting unless directed to do so by a physician or poison control center.<br>Never give anything by mouth to an unconscious person.<br>Seek medical advice. |
| Most important symptoms and effects, both acute and delayed | : First aider needs to protect himself.                                                                                                                                                                 |

#### SECTION 5. FIREFIGHTING MEASURES

|                                               |                                                                                                                                                                                   |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                  | : Dry chemical<br>Carbon dioxide (CO <sub>2</sub> )<br>Water fog.<br>Foam                                                                                                         |
| Unsuitable extinguishing media                | : Do NOT use water jet.                                                                                                                                                           |
| Specific hazards during fire-fighting         | : Cool closed containers exposed to fire with water spray.                                                                                                                        |
| Hazardous combustion products                 | : Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), sulphur oxides (SO <sub>x</sub> ), smoke and irritating vapours as products of incomplete combustion. |
| Further information                           | : Prevent fire extinguishing water from contaminating surface water or the ground water system.                                                                                   |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary.                                                                                                          |

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

|                                                                     |                                                                                                                                                       |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment.<br>Ensure adequate ventilation.<br>Evacuate personnel to safe areas.<br>Material can create slippery conditions. |
| Environmental precautions                                           | : If the product contaminates rivers and lakes or drains inform respective authorities.                                                               |

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## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

Methods and materials for containment and cleaning up

- : Prevent further leakage or spillage if safe to do so.
- Remove all sources of ignition.
- Soak up with inert absorbent material.
- Non-sparking tools should be used.
- Ensure adequate ventilation.
- Contact the proper local authorities.

#### SECTION 7. HANDLING AND STORAGE

Advice on safe handling

- : For personal protection see section 8.
- Smoking, eating and drinking should be prohibited in the application area.
- Use only with adequate ventilation.
- In case of insufficient ventilation, wear suitable respiratory equipment.
- Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
- Avoid contact with skin, eyes and clothing.
- Do not ingest.
- Keep away from heat and sources of ignition.
- Keep container closed when not in use.

Conditions for safe storage

- : Store in original container.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Keep in a dry, cool and well-ventilated place.
- Keep in properly labelled containers.
- To maintain product quality, do not store in heat or direct sunlight.

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

##### Components with workplace control parameters

| Components           | CAS-No.   | Value type<br>(Form of exposure) | Control parameters / Permissible concentration     | Basis     |
|----------------------|-----------|----------------------------------|----------------------------------------------------|-----------|
| kerosine (petroleum) | 8008-20-6 | TWA                              | 200 mg/m <sup>3</sup><br>(total hydrocarbon vapor) | CA BC OEL |
|                      |           | TWA                              | 200 mg/m <sup>3</sup><br>(total hydrocarbon vapor) | CA AB OEL |
|                      |           | TWA                              | 200 mg/m <sup>3</sup><br>(total hydrocarbon vapor) | ACGIH     |

Engineering measures

- : Use only in well-ventilated areas.
- Ensure that eyewash station and safety shower are proximal to the work-station location.

## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

#### Personal protective equipment

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respiratory protection      | : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. 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.                                                                                                                                                             |
| Filter type                 | : A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection. |
| Hand protection<br>Material | : polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.                                                                        |
| Remarks                     | : 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.                                                                                                                                                                                                                                                                                                                    |
| Eye protection              | : Wear face-shield and protective suit for abnormal processing problems.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Skin and body protection    | : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.                                                                                                                                                                                                                                                                                                                                                                   |
| Protective measures         | : Wash contaminated clothing before re-use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Hygiene measures            | : Remove and wash contaminated clothing and gloves, including the inside, before re-use.<br>Wash face, hands and any exposed skin thoroughly after handling.                                                                                                                                                                                                                                                                                                                                                 |

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|            |                        |
|------------|------------------------|
| Appearance | : Clear liquid.        |
| Colour     | : Clear and colourless |
| Odour      | : Kerosene-like.       |

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## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

|                                        |                                                                                                                                                                                                                                                            |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Odour Threshold                        | : No data available                                                                                                                                                                                                                                        |
| pH                                     | : No data available                                                                                                                                                                                                                                        |
| Pour point                             | : -51 °C (-60 °F) No data available                                                                                                                                                                                                                        |
| Boiling point/boiling range            | : 140 - 300 °C (284 - 572 °F)                                                                                                                                                                                                                              |
| Flash point                            | : > 38 °C (100 °F)<br>Method: Tagliabue                                                                                                                                                                                                                    |
| Auto-ignition Temperature              | : 210 °C (410 °F)                                                                                                                                                                                                                                          |
| Evaporation rate                       | : No data available                                                                                                                                                                                                                                        |
| Flammability                           | : Flammable in presence of open flames, sparks and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces. |
| Upper explosion limit                  | : 5 %(V)                                                                                                                                                                                                                                                   |
| Lower explosion limit                  | : 0.7 %(V)                                                                                                                                                                                                                                                 |
| Vapour pressure                        | : 5.25 mmHg (20 °C / 68 °F)                                                                                                                                                                                                                                |
| Relative vapour density                | : 4.5                                                                                                                                                                                                                                                      |
| Relative density                       | : 0.775 - 0.84 (15 °C / 59 °F)                                                                                                                                                                                                                             |
| Solubility(ies)                        |                                                                                                                                                                                                                                                            |
| Water solubility                       | : No data available                                                                                                                                                                                                                                        |
| Partition coefficient: n-octanol/water | : No data available                                                                                                                                                                                                                                        |
| Viscosity                              |                                                                                                                                                                                                                                                            |
| Viscosity, kinematic                   | : 1.0 - 1.9 cSt (40 °C / 104 °F)                                                                                                                                                                                                                           |
| Explosive properties                   | : Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Containers may explode in heat of fire.                                                                                                   |

#### SECTION 10. STABILITY AND REACTIVITY

|                                    |                                                                               |
|------------------------------------|-------------------------------------------------------------------------------|
| Possibility of hazardous reactions | : Hazardous polymerisation does not occur.<br>Stable under normal conditions. |
| Conditions to avoid                | : Extremes of temperature and direct sunlight.                                |

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## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

|                                  |                                                                                                                    |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Incompatible materials           | : Reactive with oxidising agents, acids and alkalis.                                                               |
| Hazardous decomposition products | : May release COx, NOx, SOx, aldehydes, acids, ketones, smoke and irritating vapours when heated to decomposition. |

#### SECTION 11. TOXICOLOGICAL INFORMATION

##### Information on likely routes of exposure

Eye contact  
Ingestion  
Inhalation  
Skin contact

##### Acute toxicity

###### Product:

|                           |                              |
|---------------------------|------------------------------|
| Acute oral toxicity       | : Remarks: No data available |
| Acute inhalation toxicity | : Remarks: No data available |
| Acute dermal toxicity     | : Remarks: No data available |

##### Components:

###### **kerosine (petroleum):**

|                           |                                                                            |
|---------------------------|----------------------------------------------------------------------------|
| Acute oral toxicity       | : LD50 (Rat): > 5,000 mg/kg,                                               |
| Acute inhalation toxicity | : LC50 (Rat): > 5 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist |
| Acute dermal toxicity     | : LD50 (Rabbit): > 2,000 mg/kg,                                            |

##### Skin corrosion/irritation

###### Product:

Remarks: No data available

##### Serious eye damage/eye irritation

###### Product:

Remarks: No data available

##### Respiratory or skin sensitisation

No data available

##### Germ cell mutagenicity

No data available

##### Carcinogenicity

No data available

## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

#### Reproductive toxicity

No data available

#### STOT - single exposure

No data available

#### STOT - repeated exposure

No data available

---

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae : Remarks: No data available

Toxicity to bacteria : Remarks: No data available

### Persistence and degradability

#### Product:

Biodegradability : Remarks: No data available

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Other adverse effects

No data available

---

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Offer surplus and non-recyclable solutions to a licensed disposal company.  
Waste must be classified and labelled prior to recycling or disposal.  
Send to a licensed waste management company.  
Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

Contaminated packaging : Do not re-use empty containers.

#### SECTION 14. TRANSPORT INFORMATION

##### International Regulations

###### IATA-DGR

UN/ID No. : UN 1863  
Proper shipping name : Fuel, aviation, turbine engine  
Class : 3  
Packing group : III  
Labels : Class 3 - Flammable Liquid  
Packing instruction (cargo aircraft) : 366

###### IMDG-Code

UN number : UN 1863  
Proper shipping name : FUEL, AVIATION, TURBINE ENGINE  
  
Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-E  
Marine pollutant : no

##### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

##### National Regulations

###### TDG

UN number : UN 1863  
Proper shipping name : FUEL, AVIATION, TURBINE ENGINE  
  
Class : 3  
Packing group : III  
Labels : 3  
ERG Code : 128  
Marine pollutant : no

#### SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

##### The components of this product are reported in the following inventories:

###### DSL

On the inventory, or in compliance with the inventory

###### TSCA

All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

###### EINECS

On the inventory, or in compliance with the inventory

Internet: [www.petro-canada.ca/msds](http://www.petro-canada.ca/msds)  
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## SAFETY DATA SHEET

### JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

#### SECTION 16. OTHER INFORMATION

For Copy of SDS

Internet: [www.petro-canada.ca/msds](http://www.petro-canada.ca/msds)  
Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228  
For Product Safety Information: 1 905-804-4752

Prepared by

: Product Safety: +1 905-804-4752

Revision Date

: 2018/06/07

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.



## AMC K ION

### AMC

Chemwatch: 4751-58

Version No: 4.1.1.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 2

Issue Date: 11/08/2017

Print Date: 10/23/2019

L.GHS.CAN.EN

## SECTION 1 IDENTIFICATION

### Product Identifier

|                               |               |
|-------------------------------|---------------|
| Product name                  | AMC K ION     |
| Synonyms                      | Not Available |
| Other means of identification | Not Available |

### Recommended use of the chemical and restrictions on use

|                          |                                                                         |
|--------------------------|-------------------------------------------------------------------------|
| Relevant identified uses | Use according to manufacturer's directions.<br>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@imindexlimited.com                                            |

### Emergency phone number

|                                   |                              |                              |
|-----------------------------------|------------------------------|------------------------------|
| Association / Organisation        | AMC                          | CHEMWATCH EMERGENCY RESPONSE |
| Emergency telephone numbers       | Chemwatch - (1) 877 715 9305 | +61 2 9186 1132              |
| Other emergency telephone numbers | -                            | Not Available                |

## 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 | Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - repeated exposure Category 2 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Label elements

|                     |                                                                                   |
|---------------------|-----------------------------------------------------------------------------------|
| Hazard pictogram(s) |  |
| SIGNAL WORD         | <b>WARNING</b>                                                                    |

#### Hazard statement(s)

|      |                                                                    |
|------|--------------------------------------------------------------------|
| H315 | Causes skin irritation.                                            |
| H319 | Causes serious eye irritation.                                     |
| H335 | May cause respiratory irritation.                                  |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

#### 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

|      |                                                 |
|------|-------------------------------------------------|
| P260 | Do not breathe mist/vapours/ spray.             |
| P271 | Use only outdoors or in a well-ventilated area. |

#### Precautionary statement(s) Response

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P321           | Specific treatment (see advice on this label).                                                                                   |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

#### Precautionary statement(s) Storage

|           |                                                                  |
|-----------|------------------------------------------------------------------|
| P405      | Store locked up.                                                 |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

#### Precautionary statement(s) Disposal

|      |                                                                                                                                  |
|------|----------------------------------------------------------------------------------------------------------------------------------|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|----------------------------------------------------------------------------------------------------------------------------------|

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

See section below for composition of Mixtures

#### Mixtures

| CAS No        | %[weight] | Name                                 |
|---------------|-----------|--------------------------------------|
| Not Available | 30-60     | a blend of clay inhibitive polymers. |
| 127-08-2      | 10 <30    | <u>potassium acetate</u>             |
| Not Available | balance   | nonhazardous ingredients.            |

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"> <li>Wash out immediately with fresh running water.</li> <li>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.</li> <li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul> |

#### 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 hyperkalaemia or serum potassium levels exceeding 7.5 mEq/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 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

|                             |            |
|-----------------------------|------------|
| <b>Fire Incompatibility</b> | None known |
|-----------------------------|------------|

#### Special protective equipment and precautions for fire-fighters

|                              |                                                                                                                                                                                                                                                                  |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> </ul>                                                           |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> </ul> <p>Decomposes on heating and produces toxic fumes of:<br/>carbon dioxide (CO<sub>2</sub>)<br/>nitrogen oxides (NO<sub>x</sub>)</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

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

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

## SECTION 7 HANDLING AND STORAGE

#### Precautions for safe handling

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

#### Conditions for safe storage, including any incompatibilities

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

### SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Control parameters

##### OCCUPATIONAL EXPOSURE LIMITS (OEL)

##### INGREDIENT DATA

Not Available

##### EMERGENCY LIMITS

| Ingredient        | Material name     | TEEL-1                | TEEL-2                | TEEL-3                |
|-------------------|-------------------|-----------------------|-----------------------|-----------------------|
| potassium acetate | Potassium acetate | 9.8 mg/m <sup>3</sup> | 110 mg/m <sup>3</sup> | 640 mg/m <sup>3</sup> |

| Ingredient        | Original IDLH | Revised IDLH  |
|-------------------|---------------|---------------|
| potassium acetate | Not Available | Not Available |

##### OCCUPATIONAL EXPOSURE BANDING

| Ingredient        | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|-------------------|-----------------------------------|----------------------------------|
| potassium acetate | E                                 | ≤ 0.01 mg/m <sup>3</sup>         |

##### Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

##### MATERIAL DATA

#### Exposure controls

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriate engineering controls</b> | 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.                                                                                                                                                                                                                                 |
| <b>Personal protection</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>► Safety glasses with side shields</li> <li>► Chemical goggles.</li> <li>► Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.</li> </ul>                                                                                                                                                                                                                                                                                           |
| <b>Skin protection</b>                  | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Hands/feet protection</b>            | <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"> <li>► Wear chemical protective gloves, e.g. PVC.</li> <li>► Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> |
| <b>Body protection</b>                  | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Other protection</b>                 | <ul style="list-style-type: none"> <li>► Overalls.</li> <li>► P.V.C.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                            |

### SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

|                       |                                     |                                                |               |
|-----------------------|-------------------------------------|------------------------------------------------|---------------|
| <b>Appearance</b>     | Odourless liquid, mixes with water. |                                                |               |
| <b>Physical state</b> | Liquid                              | <b>Relative density (Water = 1)</b>            | 1.09          |
| <b>Odour</b>          | Not Available                       | <b>Partition coefficient n-octanol / water</b> | Not Available |

|                                              |                |                                  |                |
|----------------------------------------------|----------------|----------------------------------|----------------|
| Odour threshold                              | Not Available  | Auto-ignition temperature (°C)   | Not Available  |
| pH (as supplied)                             | Not Available  | Decomposition temperature        | 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  |
| Lower Explosive Limit (%)                    | Not Applicable | Volatile Component (%vol)        | Not Available  |
| Vapour pressure (kPa)                        | 3.1 @ 25°C     | 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                 | 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.<br><br>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/epidemis.<br>Open cuts, abraded or irritated skin should not be exposed to this material.<br>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 |
| potassium acetate | TOXICITY                                                                                                                                                                                                                      | IRRITATION    |
|                   | Oral (rat) LD50: 3250 mg/kg <sup>[2]</sup>                                                                                                                                                                                    | 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 |               |

|                   |                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------|
| POTASSIUM ACETATE | Asthma like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a |
|-------------------|------------------------------------------------------------------------------------------------------------------------|

AMC K ION

|                                   |                                                                                                                                                               |                          |   |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---|
|                                   | non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. |                          |   |
| 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 |
| potassium acetate                                                                                                                                                                                                                                                                                                                                                                                       | ENDPOINT      | TEST DURATION (HR) | SPECIES                       | VALUE         | SOURCE        |
|                                                                                                                                                                                                                                                                                                                                                                                                         | LC50          | 96                 | Fish                          | >1-mg/L       | 2             |
|                                                                                                                                                                                                                                                                                                                                                                                                         | EC50          | 48                 | Crustacea                     | >919mg/L      | 2             |
|                                                                                                                                                                                                                                                                                                                                                                                                         | EC50          | 72                 | Algae or other aquatic plants | >1 mg/L       | 2             |
|                                                                                                                                                                                                                                                                                                                                                                                                         | NOEC          | 72                 | Algae or other aquatic plants | 1 mg/L        | 2             |
| <b>Legend:</b> Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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"> <li>▶ <b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Authority for disposal.</li> </ul> |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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

Not Applicable

#### 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 Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

##### POTASSIUM ACETATE 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 (English)

##### National Inventory Status

| National Inventory            | Status                                                                                                                                                                                                    |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AICS              | Yes                                                                                                                                                                                                       |
| Canada - DSL                  | Yes                                                                                                                                                                                                       |
| Canada - NDSL                 | No (potassium acetate)                                                                                                                                                                                    |
| 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 - ARIPS                | Yes                                                                                                                                                                                                       |
| <b>Legend:</b>                | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets) |

#### SECTION 16 OTHER INFORMATION

|               |               |
|---------------|---------------|
| Revision Date | 11/08/2017    |
| Initial Date  | Not Available |

##### SDS Version Summary

| Version | Issue Date | Sections Updated |
|---------|------------|------------------|
| 3.1.1.1 | 12/16/2015 | Appearance       |
| 4.1.1.1 | 11/08/2017 | 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  
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

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Material : LINSEED SOAP

## MATERIAL SAFETY DATA SHEET

| SECTION 1 - MATERIAL IDENTIFICATION AND USE                                             |                                                                                    | CAS # |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------|
| Manufacturer's Name<br><b>BioCANlubricants</b><br><b>a div. of 2125278 Ontario Ltd.</b> | Suppliers Name<br><b>BioCANlubricants</b><br><b>a div. of 2125278 Ontario Ltd.</b> |       |
| Manufacturer's Street Address<br><b>100 Wilkinson Road, Unit 12</b>                     | Suppliers Address<br><b>100 Wilkinson Road, Unit 12</b>                            |       |
| Manufacturer's City<br><b>BRAMPTON</b>                                                  | Suppliers City<br><b>BRAMPTON</b>                                                  |       |
| Manufacturer's Province<br><b>ONTARIO</b>                                               | Suppliers Province<br><b>ONTARIO</b>                                               |       |
| Manufacturer's Postal Code<br><b>L6T 4Y9</b>                                            | Suppliers Postal Code<br><b>L6T 4Y9</b>                                            |       |
| Manufacturer's Emergency Telephone No.<br><b>905-453-7007</b>                           | Suppliers Emergency Telephone No.<br><b>416-884-1635</b>                           |       |

| SECTION 11 - HAZARDOUS INGREDIENTS OF MATERIAL |                             |                             |                                            |                       |
|------------------------------------------------|-----------------------------|-----------------------------|--------------------------------------------|-----------------------|
| Hazardous Ingredients                          | Approximate % Concentration | C.A.S. N.A. or U.N. Numbers | LD50 Of Material Specify Species and Route | LC 50 Specify Species |
| <b>this is not a WHMIS controlled product</b>  |                             |                             |                                            |                       |

| SECTION 111 - PHYSICAL DATA FOR MATERIAL                                                               |                                                |                            |                       |                       |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------|-----------------------|-----------------------|
| Physical State                                                                                         | Odour and Appearance                           |                            | Odour Threshold (ppm) | Specific Gravity      |
| Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid <input type="checkbox"/> | <b>faint soap, brown coloured opaque paste</b> |                            | <b>not applicable</b> | <b>not applicable</b> |
| Vapour Pressure (mm)                                                                                   | Vapour Density (Air=1)                         | Evaporation Rate           | Boiling Point (°C)    | Pour Point (°C)       |
| <b>not applicable</b>                                                                                  | <b>not applicable</b>                          | <b>not applicable</b>      | <b>100'</b>           | <b>-0'</b>            |
| Coefficient of water/oil distribution                                                                  | % Volatile (by volume)                         | Solubility in Water (20°C) | pH                    |                       |
| <b>not applicable</b>                                                                                  | <b>not applicable</b>                          | <b>100 %</b>               | <b>9.5 to 11.5</b>    |                       |

| SECTION IV - FIRE AND EXPLOSION HAZARD OF MATERIAL                                  |                                |
|-------------------------------------------------------------------------------------|--------------------------------|
| Flammability<br>YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> | If yes, under what conditions: |

Means of Extinction  
Use **extinguishing media appropriate for surrounding fire.**

Special Procedures  
**not applicable**

|                                                     |                                                              |                                                              |
|-----------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| Flashpoint (°C) and method<br><b>not applicable</b> | Upper explosion limit (% by volume)<br><b>not applicable</b> | Lower explosion limit (% by volume)<br><b>not applicable</b> |
|-----------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|

|                                                                           |                                                          |                                                        |                                          |
|---------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|------------------------------------------|
| Auto Ignition Temperature(°C)<br><b>not applicable</b>                    | TDG Flammability Classification<br><b>not applicable</b> | Hazardous Combustion Products<br><b>not applicable</b> |                                          |
| Explosion Data<br>Sensitivity to Chemical Impact<br><b>not applicable</b> | Sensitivity to Static Discharge<br><b>not applicable</b> | Explosive Power<br><b>not applicable</b>               | Rate of Burning<br><b>not applicable</b> |

| SECTION V - REACTIVE DATA                                                                 |                                |
|-------------------------------------------------------------------------------------------|--------------------------------|
| Chemical Stability<br>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> | If no, under which conditions? |

Material : LINSEED SOAP

## MATERIAL SAFETY DATA SHEET

Incompatibility to other substances

YES

☐

NO

☒

If so, which ones?

Reactivity and under what conditions

not applicable

Hazardous Decomposition Products

not applicable

### SECTION VI - TOXICOLOGICAL PROPERTIES OF PRODUCT

Route of Entry

☐

Skin Contact

☐

Skin Absorption

☐

Eye Contact

☐

Inhalation Acute

☐

Inhalation Chronic

☐

Ingestion

Effects of Acute Exposure to Product

not applicable

Effects to Chronic Exposure to Product

not applicable

LD 50 of Product (Specify Species and Route)

not applicable

Irritancy of Product

not applicable

Exposure limits of Product (ACGIH TLV)

not applicable

LC 50 of Product (Specify Species)

not applicable

Sensitization to Product

not applicable

Synergistic materials

not applicable

☐

Carcinogenicity

☐

Reproductive effects

☐

Teratogenicity

☐

Mutagenicity

### SECTION VII - PREVENTIVE MEASURES

Personal Protective Equipment

not applicable

Gloves (Specify)

not applicable

Respirator (Specify)

not applicable

Eye (Specify)

not applicable

Footware (Specify)

not applicable

Clothing (Specify)

not applicable

Other (Specify)

not applicable

Engineering Controls (e.g. ventilation, enclosed process, specify)

not applicable

Leaks and Spill Procedure

Spills are slippery and could cause skidding of personnel and or equipment. Material can be used if not contaminated with foreign substances

Waste Disposal

Incineration or sanitary landfill in accordance with government regulations.

Handling Procedure and Equipment

not applicable

Storage Requirements

not applicable

Special Shipping Information

none

Material : LINSEED SOAP

## MATERIAL SAFETY DATA SHEET

### SECTION V111 - FIRST AID MEASURES

Skin

Rinse with water.

Eye

Rinse with water.

Inhalation

not applicable

Ingestion

Drink 2 glasses of water, induce vomiting.

General advise

not applicable

### SECTION IX - PREPARATION OF M.S.D.S.

Additional Information / Comments

not applicable

Sources Used

|             |           |              |              |      |               |
|-------------|-----------|--------------|--------------|------|---------------|
| Prepared by | A.J. HOOD | Phone number | 905-453-7007 | Date | APRIL 9, 2010 |
|-------------|-----------|--------------|--------------|------|---------------|



## MATERIAL SAFETY DATA SHEET

### 1. Product and Company Identification

|                |                                                                                                                                                                                                                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name   | LYSOL® Brand III Disinfectant Spray (all sizes, all scents)                                                                                                                                                                                                                                      |
| CAS #          | Mixture                                                                                                                                                                                                                                                                                          |
| Product use    | Disinfectant                                                                                                                                                                                                                                                                                     |
| Distributed by | Reckitt Benckiser<br>Morris Corporate Center IV<br>399 Interpace Parkway<br>P.O. Box 225<br>Parsippany, NJ 07054-0225<br>In Case of Emergency: 1-800-338-6167<br>Transportation Emergencies: 24 Hour Number:<br>North America: CHEMTREC: 1-800-424-9300<br>Outside North America: 1-703-527-3887 |

| LEGEND<br>HMIS/NFPA |   |
|---------------------|---|
| Severe              | 4 |
| Serious             | 3 |
| Moderate            | 2 |
| Slight              | 1 |
| Minimal             | 0 |

|                     |   |
|---------------------|---|
| Health              | 1 |
| Flammability        | 3 |
| Physical Hazard     | 0 |
| Personal Protection | B |



### 2. Hazards Identification

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency overview                  | This product is regulated by the US EPA as a disinfectant.<br>PRECAUTIONARY STATEMENTS: Hazards to humans and domestic animals.<br>CAUTION<br>Causes moderate eye irritation. Do not spray in eyes, on skin or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.<br>PHYSICAL HAZARDS: FLAMMABLE<br>Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.<br><br>KEEP OUT OF REACH OF CHILDREN. |
| Potential short term health effects |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Routes of exposure                  | Eye, Skin contact, Inhalation, Ingestion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Eyes                                | Causes moderate eye irritation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Skin                                | Moderately irritating to the skin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Inhalation                          | None expected during normal conditions of use.<br>However intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Ingestion                           | Contains denatured ethyl alcohol. May be harmful if swallowed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Target organs                       | Blood. Liver. Respiratory system. Central nervous system. Heart.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Chronic effects                     | Prolonged or repeated exposure can cause drying, defatting and dermatitis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Signs and symptoms                  | Symptoms may include redness, edema, drying, defatting and cracking of the skin.<br>Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OSHA Regulatory Status              | This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Potential environmental effects     | Components of this product have been identified as having potential environmental concerns.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### 3. Composition / Information on Ingredients

| Ingredient(s)                                                           | CAS #          | Percent  |
|-------------------------------------------------------------------------|----------------|----------|
| Ethanol                                                                 | 64-17-5        | 40 - 60  |
| Butane                                                                  | 106-97-8       | 2.5 - 10 |
| Propane                                                                 | 74-98-6        | 1 - 2.5  |
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | Not Applicable | 0 - 0.1  |

### 4. First Aid Measures

|                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First aid procedures</b>                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Eye contact</b>                                                                                                                                                                                                                  | Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a Poison Control Center or doctor for treatment advice.                                                                                                                                                                                |
| <b>Skin contact</b>                                                                                                                                                                                                                 | Wash off immediately with soap and plenty of water for at least 15 minutes. All contaminated clothes and shoes are to be removed and washed before reuse. If symptoms persist, call a physician.                                                                                                                                                                                                             |
| <b>Inhalation</b>                                                                                                                                                                                                                   | Move exposed person to fresh air. Get medical attention immediately.                                                                                                                                                                                                                                                                                                                                         |
| <b>Ingestion</b>                                                                                                                                                                                                                    | If swallowed, call physician or Poison Control Centre immediately.                                                                                                                                                                                                                                                                                                                                           |
| <b>Notes to physician</b>                                                                                                                                                                                                           | Contains denatured ethanol; ingestion may result in ethanol poisoning. Symptoms may be delayed. Treat patient symptomatically.                                                                                                                                                                                                                                                                               |
| <b>General advice</b>                                                                                                                                                                                                               | Do not puncture or incinerate container. Keep away from sources of ignition. No smoking. 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. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children. |
| NOTE TO PARENTS: Intentional misuse by deliberately concentrating and inhaling aerosol products may be harmful or fatal. Help stop inhalation abuse; for information visit <a href="http://www.inhalant.org">www.inhalant.org</a> . |                                                                                                                                                                                                                                                                                                                                                                                                              |

### 5. Fire Fighting Measures

|                                                   |                                                                                                                                                                                                           |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Flammable properties</b>                       | Flammable aerosol by flame projection test.<br>Aerosol flame extension less than 18 inches (45 cm).<br>Containers may explode when heated.<br><br>NFPA AEROSOL LEVEL: Flammability Rating 1, per NFPA 30B |
| <b>Extinguishing media</b>                        |                                                                                                                                                                                                           |
| <b>Suitable extinguishing media</b>               | Water spray. Dry chemical. Carbon dioxide.                                                                                                                                                                |
| <b>Unsuitable extinguishing media</b>             | Not available                                                                                                                                                                                             |
| <b>Protection of firefighters</b>                 |                                                                                                                                                                                                           |
| <b>Specific hazards arising from the chemical</b> | Contents under pressure. Pressurized container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out.                                 |
| <b>Protective equipment for firefighters</b>      | Firefighters should wear full protective clothing including self contained breathing apparatus.                                                                                                           |
| <b>Hazardous combustion products</b>              | May include and are not limited to: Oxides of carbon.                                                                                                                                                     |
| <b>Explosion data</b>                             |                                                                                                                                                                                                           |
| <b>Sensitivity to mechanical impact</b>           | Not available                                                                                                                                                                                             |
| <b>Sensitivity to static discharge</b>            | Not available.                                                                                                                                                                                            |

### 6. Accidental Release Measures

|                                  |                                                                                                                                                                                                                                              |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions</b>      | Keep unnecessary personnel away.<br>Do not touch or walk through spilled material.<br>Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.<br>Keep people away from and upwind of spill/leak. |
| <b>Environmental precautions</b> | Prevent further leakage or spillage if safe to do so. Do not contaminate water.                                                                                                                                                              |

|                                |                                                                                                                                                                                                                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methods for containment</b> | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area).<br>Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.                                                                                                |
| <b>Methods for cleaning up</b> | Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite. |

## 7. Handling and Storage

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | <p>Ensure adequate ventilation.<br/>Wear appropriate personal protective equipment when handling this product.<br/>Wash hands after handling and before eating.<br/>Avoid contact with eyes, skin and clothing.<br/>Do not ingest.<br/>Avoid breathing vapors or mists of this product.<br/>CONTENTS UNDER PRESSURE. DO NOT use in presence of open flame or spark. DO NOT puncture or incinerate container or store at temperatures over 50°C. DO NOT use on polished wood furniture, rayon fabrics, or acrylic plastics. Avoid contact with eyes and food. EXTREMELY FLAMMABLE<br/>Contents under pressure.<br/>Do not puncture or incinerate container.</p> |
| <b>Storage</b>  | <p>Store in original container in areas inaccessible to small children.<br/>STORE IN A COOL PLACE AND AWAY FROM DIRECT SUNLIGHT.<br/>Keep away from heat, open flames or other sources of ignition.<br/>Do not reuse container.<br/>Do not puncture or incinerate container.</p> <p>NOTE TO PARENTS: Intentional misuse by deliberately concentrating and inhaling aerosol products may be harmful or fatal. Help stop inhalation abuse; for information visit <a href="http://www.inhalant.org">www.inhalant.org</a>.</p> <p>It is a violation of Federal law to use this product in a manner inconsistent with its labeling.</p>                             |

## 8. Exposure Controls / Personal Protection

| Exposure limits                                                         |                                                                                                                           |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Ingredient(s)                                                           | Exposure Limits                                                                                                           |
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | <p>ACGIH-TLV<br/>Not established<br/>OSHA-PEL<br/>Not established</p>                                                     |
| Butane                                                                  | <p>ACGIH-TLV<br/>TWA: 1000 ppm<br/>OSHA-PEL<br/>Not established</p>                                                       |
| Ethanol                                                                 | <p>ACGIH-TLV<br/>TWA: 1000 ppm<br/>STEL: 1000 ppm<br/>OSHA-PEL<br/>TWA: 1000 ppm</p>                                      |
| Propane                                                                 | <p>ACGIH-TLV<br/>TWA: 1000 ppm<br/>OSHA-PEL<br/>TWA: 1000 ppm</p>                                                         |
| <b>Engineering controls</b>                                             | Provide adequate ventilation.                                                                                             |
| <b>Personal protective equipment</b>                                    |                                                                                                                           |
| <b>Eye / face protection</b>                                            | Avoid contact with eyes. tightly fitting safety goggles<br>Emergency responders should wear full eye and face protection. |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hand protection</b>                | Not normally required when used as directed. Avoid contact with the skin.<br>Emergency responders should wear impermeable gloves.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Skin and body protection</b>       | As required by employer code.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Respiratory protection</b>         | Not normally required if good ventilation is maintained.<br>Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.<br>Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).<br>Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of vapours generated by this product during a spill or other clean-up operations. |
| <b>General hygiene considerations</b> | Handle in accordance with good industrial hygiene and safety practice.<br>When using do not eat or drink.<br>Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.                                                                                                                                                                                                                                                                                                                                                   |

## 9. Physical and Chemical Properties

|                                                       |                            |
|-------------------------------------------------------|----------------------------|
| <b>Appearance</b>                                     | Misty spray                |
| <b>Color</b>                                          | Clear                      |
| <b>Form</b>                                           | Aerosol                    |
| <b>Odor</b>                                           | Characteristic             |
| <b>Odor threshold</b>                                 | Not available              |
| <b>Physical state</b>                                 | Gas                        |
| <b>pH</b>                                             | 10.8 - 11.8                |
| <b>Freezing point</b>                                 | Not available              |
| <b>Boiling point</b>                                  | Not available              |
| <b>Pour point</b>                                     | Not available              |
| <b>Evaporation rate</b>                               | Not available              |
| <b>Flash point</b>                                    | 78.08 °F (25.6 °C)         |
| <b>Auto-ignition temperature</b>                      | Not available              |
| <b>Flammability limits in air, lower, % by volume</b> | Not available              |
| <b>Flammability limits in air, upper, % by volume</b> | Not available              |
| <b>Vapor pressure</b>                                 | Not available              |
| <b>Vapor density</b>                                  | Not available              |
| <b>Specific gravity</b>                               | 0.882 @ 25°C (Concentrate) |
| <b>Octanol/water coefficient</b>                      | Not available              |
| <b>Solubility (H2O)</b>                               | Complete                   |
| <b>VOC (Weight %)</b>                                 | Not available              |
| <b>Viscosity</b>                                      | Not available              |
| <b>Percent volatile</b>                               | Not available              |

## 10. Stability and Reactivity

|                                           |                                                                                                                                                                                             |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | This product may react with strong oxidizing agents.                                                                                                                                        |
| <b>Possibility of hazardous reactions</b> | Hazardous polymerization does not occur.                                                                                                                                                    |
| <b>Chemical stability</b>                 | Stable under recommended storage conditions.                                                                                                                                                |
| <b>Conditions to avoid</b>                | Heat, open flames, static discharge, sparks and other ignition sources.<br>Aerosol containers are unstable at temperatures above 49°C (120.2°F).<br>Do not freeze.<br>Exposure to moisture. |
| <b>Incompatible materials</b>             | Oxidizers.                                                                                                                                                                                  |
| <b>Hazardous decomposition products</b>   | May include and are not limited to: Oxides of carbon.                                                                                                                                       |

## 11. Toxicological Information

### Component analysis - LC50

| Ingredient(s)                                                           | LC50          |
|-------------------------------------------------------------------------|---------------|
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | Not available |
| Butane                                                                  | Not available |
| Ethanol                                                                 | 31623 ppm rat |
| Propane                                                                 | Not available |

### Component analysis - Oral LD50

| Ingredient(s)                                                           | LD50                             |
|-------------------------------------------------------------------------|----------------------------------|
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | Not available                    |
| Butane                                                                  | Not available                    |
| Ethanol                                                                 | 3450 mg/kg mouse; 7060 mg/kg rat |
| Propane                                                                 | Not available                    |

### Effects of acute exposure

|                 |                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye             | Causes moderate eye irritation.                                                                                                                               |
| Skin            | Moderately irritating to the skin.                                                                                                                            |
| Inhalation      | None expected during normal conditions of use.<br>However intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. |
| Ingestion       | Contains denatured ethyl alcohol. May be harmful if swallowed.                                                                                                |
| Sensitization   | The finished product is not expected to have chronic health effects.                                                                                          |
| Chronic effects | The finished product is not expected to have chronic health effects.                                                                                          |
| Carcinogenicity | The finished product is not expected to have chronic health effects.                                                                                          |

#### ACGIH - Threshold Limit Values - Carcinogens

|         |         |                                                                   |
|---------|---------|-------------------------------------------------------------------|
| Ethanol | 64-17-5 | A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans |
|---------|---------|-------------------------------------------------------------------|

|                                              |                                                                      |
|----------------------------------------------|----------------------------------------------------------------------|
| Mutagenicity                                 | The finished product is not expected to have chronic health effects. |
| Reproductive effects                         | The finished product is not expected to have chronic health effects. |
| Teratogenicity                               | The finished product is not expected to have chronic health effects. |
| Name of Toxicologically Synergistic Products | Not available                                                        |

## 12. Ecological Information

|             |                                                                                             |
|-------------|---------------------------------------------------------------------------------------------|
| Ecotoxicity | Components of this product have been identified as having potential environmental concerns. |
|-------------|---------------------------------------------------------------------------------------------|

#### Ecotoxicity - Freshwater Fish - Acute Toxicity Data

|         |         |                                                                                                                                                                                  |
|---------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethanol | 64-17-5 | 96 Hr LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through] |
|---------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Ecotoxicity - Water Flea - Acute Toxicity Data

|         |         |                                                                                                                              |
|---------|---------|------------------------------------------------------------------------------------------------------------------------------|
| Ethanol | 64-17-5 | 48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L; 24 Hr EC50 Daphnia magna: 10800 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L [Static] |
|---------|---------|------------------------------------------------------------------------------------------------------------------------------|

|                                 |               |
|---------------------------------|---------------|
| Persistence / degradability     | Not available |
| Bioaccumulation / accumulation  | Not available |
| Mobility in environmental media | Not available |
| Environmental effects           | Not available |
| Aquatic toxicity                | Not available |
| Partition coefficient           | Not available |
| Chemical fate information       | Not available |

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### 13. Disposal Considerations

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|                                       |                                                                                                                 |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Disposal instructions                 | Dispose in accordance with all applicable regulations.<br>Discard in trash or offer for recycling if available. |
| Waste from residues / unused products | Not available                                                                                                   |
| Contaminated packaging                | Not available                                                                                                   |

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### 14. Transport Information

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#### U.S. Department of Transportation (DOT)

UN1950, Aerosols, flammable, Class 2.1 Re-Classed as Limited Quantity

#### Transportation of Dangerous Goods (TDG - Canada)

UN1950, Aerosols, flammable, Class 2.1 Re-Classed as Limited Quantity

#### IMDG (Marine Transport)

UN 1950, Aerosols, flammable, Class 2.1

IATA/ICAO (Air)

UN 1950, Aerosols, Flammable, Limited Quantity or

Consumer Commodity, ID 8000 if acceptable to airline.

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## 15. Regulatory Information

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### Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

### US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
Product Registration: Registered with EPA, EPA Reg. No. 777-99

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - Yes  
Pressure Hazard - Yes  
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Not available

**State regulations** See below

**U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances**

Butane 106-97-8 Present

**U.S. - Massachusetts - Right To Know List**

Butane 106-97-8 Present  
Ethanol 64-17-5 Teratogen  
Propane 74-98-6 Present

**U.S. - Minnesota - Hazardous Substance List**

Butane 106-97-8 Present  
Ethanol 64-17-5 Present  
Propane 74-98-6 Simple asphyxiant

**U.S. - New Jersey - Right to Know Hazardous Substance List**

Butane 106-97-8 sn 0273  
Ethanol 64-17-5 sn 0844  
Propane 74-98-6 sn 1594

**U.S. - Pennsylvania - RTK (Right to Know) List**

Butane 106-97-8 Present  
Ethanol 64-17-5 Present  
Propane 74-98-6 Present

**U.S. - Rhode Island - Hazardous Substance List**

Butane 106-97-8 Toxic; Flammable  
Ethanol 64-17-5 Toxic; Flammable  
Propane 74-98-6 Toxic; Flammable

**Inventory status**

| Country(s) or region        | Inventory name                                | On inventory (yes/no)* |
|-----------------------------|-----------------------------------------------|------------------------|
| 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)

## 16. Other Information

**Disclaimer**

This product should only be used as directed on the label and for the purpose intended. 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.

**Further information**

LYSOL® Brand III Disinfectant Spray - Crisp Linen - 6 oz, 12.5 oz, 19 oz, 350g - 0242193 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - "To Go" Crisp Linen - 1 oz, 28 g - 0242193 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Spring Waterfall - 12.5 oz, 19 oz, 350g - 0258756 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Crisp Berry - 12.5 oz, 19 oz, 350g - 0175938 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Early Morning Breeze - 12.5 oz, 19 oz - 0175929 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Garden Mist - 12.5 oz, 19 oz - 0175932 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - For Baby's Room - 12.5 oz, 19 oz - 01759232 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Summer Breeze - 12.5 oz, 19 oz - 0175935 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Citrus Meadows - 12.5 oz, 19 oz - 0175926 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Vanilla & Blossoms - 12.5 oz, 19 oz - 0175943 v 1.0  
  
LYSOL® Brand III Disinfectant Spray - Jasmine & Rain - 12.5 oz, 19 oz - 0175920 v 1.0

**Issue date**

17-May-2012

**Effective date**

15-Mar-2012

**Prepared by**

Reckitt Benckiser Regulatory Department 800-333-3899

**Other information**

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

# MATERIAL SAFETY DATA SHEET



102 – 17910 – 55<sup>th</sup> Ave., Surrey, BC, Canada V3S 6C8 • Toll Free 1-866-535-6699  
Tel: 604-575-6660 Fax: 604-575-5494 e-mail: extreme.ron@telus.net

EXTREME NUMBER ONE

EMERGENCY PHONE NO. (604) 575-6660

PAGE 1 OF 5

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 1  
FIRE 0  
REACTIVITY 0  
OTHER: B (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

|                          |                                |
|--------------------------|--------------------------------|
| PRODUCT NAME:            | EXTREME NUMBER ONE             |
| CHEMICAL IDENTIFICATION: | Acrylamide, Acrylate Copolymer |
| MATERIAL USE:            | Drilling Fluid Additive        |
| WHMIS CLASSIFICATION:    | Not Regulated                  |
| WORK PLACE HAZARD:       | Not Applicable                 |

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

|                 |                     |
|-----------------|---------------------|
| CLASSIFICATION: | Not Dangerous Goods |
| PACKAGE GROUP:  | Not Applicable      |
| CAS NUMBER:     | Not Applicable      |
| MSDS CODE:      | Not Applicable      |

## SECTION 2

## HAZARDOUS INGREDIENTS

|             |                           |
|-------------|---------------------------|
| INGREDIENT: | None Considered Hazardous |
| PERCENTAGE: | Not Available             |
| CAS NUMBER: | Not Available             |
| LD (50):    | Not Available             |
| LC (50):    | Not Available             |

## EXTREME NUMBER ONE

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                           |
|-----------------------------|-------------------------------------------|
| APPEARANCE AND ODOUR:       | Slight, mild odour, white, granular solid |
| DENSITY (SPECIFIC GRAVITY): | .80                                       |
| BOILING POINT:              | Not Available                             |
| MELTING POINT:              | Not Available                             |
| SOLUBILITY:                 | Soluble                                   |
| EVAPORATION RATE: (EE=1):   | Not Available                             |
| VAPOUR PRESSURE: (MM HG):   | Not Available                             |
| VAPOUR DENSITY: (AIR = 1):  | Not Available                             |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                                      |
|-------------------------------------|----------------------------------------------------------------------|
| FLASHPOINT:                         | Not Applicable                                                       |
| FLAMMABLE LIMIT:                    | Not Available                                                        |
| AUTO IGNITION TEMP:                 | No Data                                                              |
| EXTINGUISHING MEDIA:                | Dry Chemical, Carbon Dioxide, Foam                                   |
| SPECIAL FIRE FIGHTING PROCEDURES:   | Self-Contained Respirators For Fire Fighting Personnel.              |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Products of incomplete combustion and oxides of nitrogen and carbon. |

**SECTION 5****REACTIVITY DATA**

|                                        |                                                       |
|----------------------------------------|-------------------------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable                                                |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong oxidizing agents and highly alkaline solutions |
| HAZARDOUS POLYMERIZATION:              | Will not occur                                        |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | None                                                  |

## MATERIAL SAFETY DATA SHEET

## EXTREME NUMBER ONE

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

(X) INHALATION

(X) INGESTION

## SKIN CONTACT:

May be minimally irritating to sensitive skin upon prolonged direct contact.

## EYE CONTACT:

May be minimally irritating to eyes upon direct contact.

## INHALATION:

May cause irritation to nose and throat.

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

Impervious gloves, protective clothing as required  
Goggles.

## EYE PROTECTION:

## VENTILATION:

General mechanical; 10 changes per hour.

## RESPIRATORY PROTECTION:

Approved dust mask; MESA type

## LEAK &amp; SPILL PROCEDURE:

Ventilate area, wear rubber boots, gloves and a self-contained respirator if ventilation inadequate. Collect into waste container. wash site after pick up. Water solutions extremely slippery.

## WASTE DISPOSAL:

Dispose in compliance with government regulations and local requirements.

## STORAGE REQUIREMENTS:

Cool, dry area, away from oxidizing and reducing agents. Keep containers closed when not in use. Avoid prolonged contact when handling. Do not inhale dust.

## EXTREME NUMBER ONE

## MATERIAL SAFETY DATA SHEET

**SECTION 8****FIRST AID MEASURES**

|             |                                                                                                                                     |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------|
| SKIN:       | Wash thoroughly with soap and warm water                                                                                            |
| EYE:        | Flush with water for at least 15 minutes. Seek medical attention.                                                                   |
| INHALATION: | Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention. |
| INGESTION:  | Do not induce vomiting. If conscious, dilute by giving two glasses of water. Seek medical attention.                                |

**SECTION 9****PREPARATION DATE**

|               |                          |
|---------------|--------------------------|
| DATE ISSUED:  | APRIL 18, 2009           |
| DATE REVISED: | JANUARY 01, 2012         |
| BY:           | PRODUCT SAFETY COMMITTEE |

THE DATA REPRESENTED HEREIN IS BELIEVED ACCURATE AND REFLECTS OUR BEST PROFESSIONAL JUDGMENT. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY USE, OR ANY OTHER WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF SUCH DATA, THE RESULTS TO BE OBTAINED FROM THE USE THEREOF, OR THAT ANY SUCH USE DOES NOT INFRINGE ANY PATENT. SINCE THE INFORMATION CONTAINED HEREIN MAY BE APPLIED UNDER CONDITIONS OF USE BEYOND OUR CONTROL AND WITH WHICH WE MAY BE UNFAMILIAR, WE DO NOT ASSUME ANY RESPONSIBILITY FOR THE RESULTS OF SUCH APPLICATION. THIS INFORMATION IS FURNISHED UPON THE CONDITION THAT THE PERSON RECEIVING IT SHALL MAKE HIS OWN DETERMINATION OF THE SUITABILITY OF THE MATERIAL FOR HIS PARTICULAR PURPOSE.

## MATERIAL SAFETY DATA SHEET

EXTREME NUMBER ONE

## ADDENDUM

SECTION 10ECOLOGICAL INFORMATION

## ACUTE TOXICITY:

- Oral:
- Dermal:
- Inhalation:

LD50/oral/rat &gt; 5000 mg/kg

The results of lab testing showed this material to be non-toxic even at high dose levels.

The product is not expected to be toxic by inhalation.

## IRRITATION:

- Skin:
- Eyes:

The results of lab testing showed this material to be non-irritating to the skin.

Testing conducted according to the Draize technique showed the material produces no corneal or iridial effects and only slight transitory conjunctival effects similar to those which all granular materials have no conjunctivae.

## SENSITIZATION:

The results of lab testing showed this material to be non-sensitizing.

## CHRONIC TOXICITY:

The results of extensive lab testing did not reveal adverse health effects.

ECOTOXICITY

- Fish:
- Algae:

LC50 / Fathead minnows / 96 hours &gt; 1000 mg/l

EC50 / Selenastrum capricornutum &gt; 96 hours &gt; 500 mg/l

## Bioaccumulation:

The product is not expected to bioaccumulate.

## Persistence / degradability:

Not readily biodegradable.

**ASHLAND**  
**SAFETY DATA SHEET**

Page: 1  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE  
COMPANY/UNDERTAKING**

|                    |                               |                                   |
|--------------------|-------------------------------|-----------------------------------|
| Ashland            | Regulatory Information Number | 1-800-325-3751                    |
| P.O. Box 2219      | Telephone                     | 614-790-3333                      |
| Columbus, OH 43216 | Emergency telephone           | 1-800-ASHLAND<br>(1-800-274-5263) |

|                         |                                                 |
|-------------------------|-------------------------------------------------|
| Product name            | NAPA® PREM PERF GEAR OIL SAE 80W-90 GEAR<br>OIL |
| Product code            | NP75213                                         |
| Product Use Description | No data                                         |

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

Appearance: liquid, amber

CAUTION! PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND  
CAUSE IRRITATION.

**Potential Health Effects**

**Routes of exposure**

Inhalation, Skin contact, Eye Contact, Ingestion

**Eye contact**

Unlikely to cause eye irritation or injury.

**Skin contact**

Unlikely to cause skin irritation or injury. Prolonged or repeated contact may dry  
and crack the skin.

**Ingestion**

Swallowing small amounts of this material during normal handling is not likely to  
cause harmful effects. Swallowing large amounts may be harmful.

**Inhalation**

It is possible to breathe this material under certain conditions of handling and use  
(for example, during heating, spraying, or stirring). Breathing small amounts of this

# ASHLAND

## SAFETY DATA SHEET

Page: 2  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

### Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions)

### Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways)

### Target Organs

No data

### Carcinogenicity

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

### Reproductive hazard

There are no data available for assessing risk to the fetus from maternal exposure to this material.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components                                           | CAS-No.    | Concentration |
|------------------------------------------------------|------------|---------------|
| DISTILLATES (PETROLEUM),<br>HYDROTREATED HEAVY PARAF | 64742-54-7 | >=70-<80%     |

## 4. FIRST AID MEASURES

### Eyes

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

**ASHLAND**  
**SAFETY DATA SHEET**

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

Page: 3  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

**Skin**

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

**Ingestion**

Do not induce vomiting. Give one glass of milk or water, and get medical attention immediately. If possible, do not leave victim unattended.

**Inhalation**

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

**Notes to physician**

**Hazards:** Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

**Treatment:** No information available.

|                                  |
|----------------------------------|
| <b>5. FIRE-FIGHTING MEASURES</b> |
|----------------------------------|

**Suitable extinguishing media**

Dry chemical, Carbon dioxide (CO<sub>2</sub>), Foam, Water spray

**Hazardous combustion products**

carbon dioxide and carbon monoxide, oxides of sulfur, nitrogen and phosphorus, Hydrocarbons

**Precautions for fire-fighting**

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase

**ASHLAND**  
**SAFETY DATA SHEET**

Page: 4  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid.

**Flammability Class for Flammable Liquids**  
Combustible Liquid Class IIIB

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

**Environmental precautions**

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

**Methods for cleaning up**

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

**7. HANDLING AND STORAGE**

**Handling**

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

**Storage**

Store in a cool, dry, ventilated area.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**

**General advice**

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

# ASHLAND

## SAFETY DATA SHEET

Page: 5  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

### Exposure controls

General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

### Eye protection

Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

### Skin and body protection

Wear resistant gloves (consult your safety equipment supplier).  
Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

### Respiratory protection

Respiratory protection is not required under normal conditions of use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                        |                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------|
| Physical state                         | liquid                                                                            |
| Form                                   | No data                                                                           |
| Colour                                 | amber                                                                             |
| Odour                                  | No data                                                                           |
| Boiling point/boiling range            | 218.30 °C / 424.9 °F @ 760.00 mmHg                                                |
| pH                                     | No data                                                                           |
| Flash point                            | (≥) 432 °F / 222 °C, Cleveland open cup                                           |
| Evaporation rate                       | > 1 (Ethyl Ether)                                                                 |
| Explosion limits                       | No data                                                                           |
| Vapour pressure                        | 0.10 mmHg                                                                         |
| Vapour density                         | (>) 1 (AIR=1)                                                                     |
| Density                                | 0.8916 g/cm <sup>3</sup> @ 60.01 °F / 15.56 °C<br>7.28 lb/gal @ 60.1 °F / 15.6 °C |
| Solubility                             | No data                                                                           |
| Partition coefficient: n-octanol/water | No data                                                                           |

**ASHLAND**  
**SAFETY DATA SHEET**

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

Page: 6  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

**log Pow** no data available  
**Autoignition temperature** No data

**10. STABILITY AND REACTIVITY**

**Stability**

Stable

**Conditions to avoid**

None known.

**Incompatible products**

Strong oxidizing agents

**Hazardous decomposition products**

carbon dioxide and carbon monoxide, oxides of sulfur, nitrogen and phosphorus,  
Hydrocarbons

**Hazardous reactions**

Product will not undergo hazardous polymerization.

**Thermal decomposition**

No data

**11. TOXICOLOGICAL INFORMATION**

**Acute oral toxicity**

|                                                      |                      |
|------------------------------------------------------|----------------------|
| DISTILLATES (PETROLEUM),<br>HYDROTREATED HEAVY PARAF | LD 50 Rat: > 15 g/kg |
|------------------------------------------------------|----------------------|

**Acute inhalation toxicity**

|                                                      |                   |
|------------------------------------------------------|-------------------|
| DISTILLATES (PETROLEUM),<br>HYDROTREATED HEAVY PARAF | no data available |
|------------------------------------------------------|-------------------|

**Acute dermal toxicity**

|                                                      |                        |
|------------------------------------------------------|------------------------|
| DISTILLATES (PETROLEUM),<br>HYDROTREATED HEAVY PARAF | LD 50 Rabbit: > 5 g/kg |
|------------------------------------------------------|------------------------|

**12. ECOLOGICAL INFORMATION**

**ASHLAND**  
**SAFETY DATA SHEET**

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

Page: 7  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

**Aquatic toxicity**

**Acute and Prolonged Toxicity to Fish**

No data

**Acute Toxicity to Aquatic Invertebrates**

No data

**Environmental fate and pathways**

No data

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods**

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

**14. TRANSPORT INFORMATION**

Dangerous goods descriptions (if indicated above) may not reflect package size, quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

**15. REGULATORY INFORMATION**

**California Prop. 65**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**SARA Hazard Classification** Acute Health Hazard

**SARA 313 Component(s)**

**Reportable quantity - Components**

DISTILLATES (PETROLEUM),  
HYDROTREATED HEAVY PARAF

64742-54-7

none

**ASHLAND**  
**SAFETY DATA SHEET**

NAPA® PREM PERF GEAR OIL SAE  
80W-90 GEAR OIL NP75213

Page: 8  
Revision Date: 06/27/2008  
Print Date: 7/1/2008  
MSDS Number: R0091437  
Version: 2.0

|      | Health | Flammability | Reactivity | Other |
|------|--------|--------------|------------|-------|
| HMIS | 1      | 1            | 0          |       |
| NFPA | 1      | 1            | 0          |       |

|                              |
|------------------------------|
| <b>16. OTHER INFORMATION</b> |
|------------------------------|

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

|                                                                                   |                   |                        |
|-----------------------------------------------------------------------------------|-------------------|------------------------|
|  | SAFETY DATA SHEET | Page : 1               |
|                                                                                   |                   | Revised edition no : 6 |
|                                                                                   |                   | Date : 6 / 1 / 2014    |
|                                                                                   |                   | Supersedes : 0 / 0 / 0 |
| Gulf Harmony AW 32                                                                |                   | 10103/32/1/6           |

#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

|                                                                               |                                                                                                                                                  |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Product identifier                                                            | : Gulf Harmony AW 32                                                                                                                             |
| Viscosity Grade                                                               | : ISO VG 32                                                                                                                                      |
| Product code Gulf Oil International                                           | : 10103/32/1/6                                                                                                                                   |
| Relevant identified uses of the substance or mixture and uses advised against | : Industrial hydraulic oil.<br>This oil should not be used for any other purpose than the intended use as a hydraulic oil without expert advice. |
| Details of the supplier of the safety data sheet                              | : Gulf Oil Lubricants India Ltd, IN Centre, 12th Road, Marol,<br>Andheri (East), Mumbai - 400 093                                                |
| Emergency telephone number                                                    | : +91 22 66487777                                                                                                                                |

#### 2. HAZARDS IDENTIFICATION

|                                                 |                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Classification of the substance or mixture      | : Not classified as dangerous under EC criteria.                                                                |
| Most important adverse physico-chemical effects | : Combustible liquid                                                                                            |
| Most important adverse human health effects     | : Prolonged or repeated skin contact with the material will remove natural oils and could lead to a dermatitis. |
| Most important adverse environmental effects    | : No specific risk for the environment.                                                                         |

##### Label elements:

|                  |                                                                                                                                                                                               |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| - safety advices | : Do not empty into drains; dispose of this material and its container in a safe way.                                                                                                         |
| Other hazards    | : Injection under the skin can occur when using high pressure equipment. Overexposure to oil mist may cause respiratory irritations.<br>Oil mist deposited on surfaces may cause slip hazard. |

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical characterization      |                     | : Mixture of highly refined mineral oils and additives (PCA-content < 3% - IP 346) |           |          |           |                                   |
|--------------------------------|---------------------|------------------------------------------------------------------------------------|-----------|----------|-----------|-----------------------------------|
| Substance name                 | Contents            | CAS No                                                                             | EC No     | Annex No | Ref REACH | Classification                    |
| Zinc dialkyl dithiophosphate   | : 0.36 - 0.66 %     | 68649-42-3                                                                         | 272-026-3 | ----     | ----      | Xn; R30/38                        |
| Alkyl phenol                   | : 0.11 - 0.22 %     | ----                                                                               | ----      | ----     | ----      | N; R50-53                         |
| Long chain alkenyl succinimide | : 0.06 - 0.11 %     | ----                                                                               | ----      | ----     | ----      |                                   |
| Calcium alkaryl sulfonate      | : 0.006 - 0.011 %   | ----                                                                               | ----      | ----     | ----      | Xn; R38-41                        |
| Aryl phosphine                 | : 0.0029 - 0.0055 % | ----                                                                               | ----      | ----     | ----      | Xn; R48/20/22<br>R49<br>N; R50-53 |

#### 4. FIRST AID MEASURES

##### Description of first aid measures:

|                               |                                                                                                                                                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| - after inhalation            | : Assure fresh air breathing. If you feel unwell, seek medical advice.                                                                            |
| - after contact with skin     | : Remove contaminated clothing and shoes. Wash skin thoroughly with mild soap and water. Never use kerosine or gasoline for cleaning the skin.    |
| - after contact with the eyes | : Rinse immediately with plenty of water. Seek medical attention if irritation develops.                                                          |
| - after ingestion             | : Do not induce vomiting. Seek medical attention immediately.                                                                                     |
| - after injection             | : If injected under the skin when using high pressure equipment, send casualty immediately to a hospital, even when there are few or no symptoms. |

**Gulf Oil International**  
16 Charles II St. SW1Y 4QU - London - United Kingdom

|                                                                                   |                   |                        |
|-----------------------------------------------------------------------------------|-------------------|------------------------|
|  | SAFETY DATA SHEET | Page : 2               |
|                                                                                   |                   | Revised edition no : 6 |
|                                                                                   |                   | Date : 6 / 1 / 2014    |
|                                                                                   |                   | Supersedes : 0 / 0 / 0 |
| Gulf Harmony AW 32                                                                |                   | 10103/32/1/6           |

#### SECTION 4. FIRST AID MEASURES (continued)

- Most important symptoms and effects, both acute and delayed** : Symptoms of overexposure to vapours include drowsiness, weakness, headache, dizziness, nausea, vomiting, dimming of vision.
- Indication of any immediate medical attention and special treatment needed** : High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of the injury.

#### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media** : Water fog, Carbon dioxide, Foam, Dry chemical product.
- Extinguishing media which shall not be used for safety reasons** : Do not use a heavy water stream.
- Special hazards arising from the substance or mixture** : Under fire conditions, hazardous fumes will be present.
- Advice for firefighters** : Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus, rubber boots and thick rubber gloves. Use water spray or fog for cooling exposed containers. Avoid fire-fighting water to enter environment.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures:

- for non-emergency personnel** : Evacuate unnecessary personnel.
- for emergency responders** : Equip cleanup crew with proper protection. Wear suitable protective clothing, gloves and eye or face protection. Eliminate every possible source of ignition.
- Environmental precautions** : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Avoid release to the environment. Notify authorities if liquid enters sewers or public waters. Spill area may be slippery.
- Methods and material for containment and cleaning up** : Clean up any spills as soon as possible, using an absorbent material to collect it. Use suitable disposal containers.
- Reference to other sections** : See Heading 8 & 13.

#### 7. HANDLING AND STORAGE

- Precautions for safe handling** : Keep away from sources of ignition. No naked lights. No smoking. Use only in well ventilated areas. Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with soap and water before leaving work.
- Conditions for safe storage, including any incompatibilities** : Store this product in a dry location where it can be protected from the elements. Store in tightly closed, properly ventilated containers away from heat, sparks, open flame, strong oxidizers, radiations, and other initiators. Keep at temperature not exceeding 50°C.
- Specific end use(s)** : Industrial hydraulic oil.  
This oil should not be used for any other purpose than the intended use as a hydraulic oil without expert advice.

**Gulf Oil International**  
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|                                                                                   |                   |                        |
|-----------------------------------------------------------------------------------|-------------------|------------------------|
|  | SAFETY DATA SHEET | Page : 3               |
|                                                                                   |                   | Revised edition no : 6 |
|                                                                                   |                   | Date : 6 / 1 / 2014    |
|                                                                                   |                   | Supersedes : 0 / 0 / 0 |
| Gulf Harmony AW 32                                                                |                   | 10103/32/1/6           |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters:

#### Occupational exposure limit values:

- Australia : National exposure standards for atmospheric contaminants in the occupational environment; Time-Weighted Average (normal eight-hour working day, for a five-day working week): 5 mg/m<sup>3</sup> for oil mist, refined mineral. (National Occupational Health & Safety Commission [NOHSC: 1003(1995)])
- Canada : The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned mineral oil mist a threshold limit value (TLV) of 5 mg/m(3) as a Time Weighted Average (TWA) for a normal 8-hour workday and a 40-hour workweek and a short-term exposure limit (STEL) of 10 mg/m(3) for periods not to exceed 15 minutes. Exposures at the STEL concentration should not be repeated more than four times a day and should be separated by intervals of at least 60 minutes. [ACGIH 1994, p. 28]
- EU : Occupational Exposure Standard (OES) of 5 mg/m<sup>3</sup>, 8-hour time-weighted average reference period for oil mist.
- USA : The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned mineral oil mist a threshold limit value (TLV) of 5 mg/m(3) as a Time Weighted Average (TWA) for a normal 8-hour workday and a 40-hour workweek and a short-term exposure limit (STEL) of 10 mg/m(3) for periods not to exceed 15 minutes. Exposures at the STEL concentration should not be repeated more than four times a day and should be separated by intervals of at least 60 minutes. [ACGIH 1994, p. 28]

### Occupational Exposure Limits

- Biological limit values : No data available

### Exposure controls:

#### Individual protection measures, such as personal protective equipment:

- eye / face protection : Chemical goggles or safety glasses (EN 166)
- skin protection : Wear suitable protective clothing.
- hand protection : Wear suitable gloves resistant to chemical penetration. (EN 374)
- respiratory protection : The use of Filtertype A (EN 141) is recommended If exceeding the Occupational Exposure Limit.
- others : Do not wear leather soled shoes.
- Environmental exposure controls : Avoid release to the environment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties:

- physical state : Oily liquid.
- colour : Yellow-brown.
- odour : Light odour of petroleum.
- flash point : 202°C
- density @ 15°C : 870 kg/m<sup>3</sup>
- solubility in water : Insoluble.
- viscosity @ 40°C : 31.2 cSt
- pour point : -24°C
- Other information : See Product Data Sheet for detailed information.

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 16 Charles II St. SW1Y 4QU - London - United Kingdom

|                                                                                   |                   |                        |
|-----------------------------------------------------------------------------------|-------------------|------------------------|
|  | SAFETY DATA SHEET | Page : 4               |
|                                                                                   |                   | Revised edition no : 6 |
|                                                                                   |                   | Date : 6 / 1 / 2014    |
|                                                                                   |                   | Supersedes : 0 / 0 / 0 |
| Gulf Harmony AW 32                                                                |                   | 10103/32/1/6           |

#### 10. STABILITY AND REACTIVITY

|                                    |                                       |
|------------------------------------|---------------------------------------|
| Reactivity                         | : No data available.                  |
| Chemical stability                 | : Stable under normal conditions.     |
| Possibility of hazardous reactions | : None under normal conditions.       |
| Conditions to avoid                | : Extremely high or low temperatures. |
| Incompatible materials             | : Strong oxidizing agents.            |
| Hazardous decomposition products   | : None under normal conditions.       |

#### 11. TOXICOLOGICAL INFORMATION

##### Information on toxicological effects:

|                         |                                                                                                                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| - acute toxicity        | : No specific toxicity data on this product available.                                                                                                                                                                                             |
| - irritation            | : Not expected to be an irritant to eyes or skin.<br>Inhalation of fumes or vapours may cause respiratory irritation.                                                                                                                              |
| - corrosivity           | : No adverse health effects were noted.                                                                                                                                                                                                            |
| - sensitisation         | : No sensitization effects known.                                                                                                                                                                                                                  |
| - carcinogenicity       | : This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test. |
| - mutagenicity          | : Not expected to be mutagenetic.                                                                                                                                                                                                                  |
| - reproductive toxicity | : Not expected to be toxic.                                                                                                                                                                                                                        |

##### Information on likely routes of exposure:

|                                                                                            |                                                                                                                 |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| - after ingestion                                                                          | : Ingestion may cause nausea, vomiting and diarrhoea.                                                           |
| - after inhalation                                                                         | : Inhalation of vapours may cause respiratory irritation.                                                       |
| - after skincontact                                                                        | : Prolonged or repeated skin contact with the material will remove natural oils and could lead to a dermatitis. |
| - after eyecontact                                                                         | : Slight eye irritant upon direct contact.                                                                      |
| Symptoms related to the physical, chemical and toxicological characteristics               | : No adverse health effects were noted.                                                                         |
| Delayed and immediate effects as well as chronic effects from short and long-term exposure | : No adverse health effects were noted.                                                                         |
| Other toxicological information                                                            | : No data available.                                                                                            |

#### 12. ECOLOGICAL INFORMATION

|                                    |                                                                                                                                                                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity                           | : No specific ecotoxicity data on this product available.                                                                                                                    |
| Persistence and degradability      | : Not determined.                                                                                                                                                            |
| Bioaccumulative potential          | : No data available.                                                                                                                                                         |
| Mobility in soil                   | : It is to be expected small mobility in soil. Some or a few components may get into the soil and may cause pollution of ground water. Product spreads on the water surface. |
| Results of PBT and vPvB assessment | : Not applicable.                                                                                                                                                            |
| Other adverse effects              | : May contaminate water supplies.                                                                                                                                            |
| Biodegradation                     | : No data available.                                                                                                                                                         |

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 16 Charles II St. SW1Y 4QU - London - United Kingdom

|                                                                                   |                   |                        |
|-----------------------------------------------------------------------------------|-------------------|------------------------|
|  | SAFETY DATA SHEET | Page : 5               |
|                                                                                   |                   | Revised edition no : 6 |
|                                                                                   |                   | Date : 6 / 1 / 2014    |
|                                                                                   |                   | Supersedes : 0 / 0 / 0 |
| Gulf Harmony AW 32                                                                |                   | 10103/32/1/6           |

### 13. DISPOSAL CONSIDERATIONS

- |                                |                                                                                                                                                                       |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste Disposal                 | : Dispose in a safe manner in accordance with local/national regulations.                                                                                             |
| Waste treatment methods        | : See Directive 2001/118/EC                                                                                                                                           |
| Waste Code European Waste List | : 13 02 05 - mineral-based non-chlorinated engine, gear and lubricating oils.<br>15 01 10 - packaging containing residues of or contaminated by dangerous substances. |

### 14. TRANSPORT INFORMATION

Not regulated.

### 15. REGULATORY INFORMATION

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

- |                                                                          |                                                                                                                                                 |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| - Australian Inventory of Chemical Substances (AICS)                     | : All components are in compliance with chemical notification requirements in Australia.                                                        |
| - Canadian Environmental Protection Act (CEPA)                           | : All components are in compliance with the Canadian Environmental Protection Act (CEPA) and are present on the Domestic Substances List (DSL). |
| - European Inventory of Existing Commercial Chemical Substances (EINECS) | : All components listed.                                                                                                                        |
| - USA Toxic Substances Control Act (TSCA)                                | : All components of this material are on the US TSCA Inventory or are exempt.                                                                   |
| - Germany                                                                | : Water Hazard Class: 1 - low hazard to waters                                                                                                  |

### 16. OTHER INFORMATION

- |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Revision Indicators                                             | : None.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Key to abbreviations and acronyms used in the safety data sheet | : ACGIH = American Conference of Industrial Hygienists<br>CLP = Classification and Labelling of Substances and Preparations<br>EC = European Commission. EN = European Norm<br>IARC = International Agency for Research on Cancer<br>IP = Institute of Petroleum. ISO = International Organization for Standardization<br>NLGI = National Lubricating Grease Institute<br>PCA = Polycyclic Aromatics<br>TLV = Threshold Limit Value. TWA = Time Weighted Average<br>VG = Viscosity Grade |
| Key literature references and sources for data                  | : Concawe Report 01/53, Concawe Report 01/54, Concawe Report 05/87.<br>Regulations (EC) No 1907/2006, 1272/2008 & 453/2010 of the European Parliament and of the Council.                                                                                                                                                                                                                                                                                                                |
| List of relevant R-phrases                                      | : R36/38 : Irritating to eyes and skin.<br>R38 : Irritating to skin.<br>R41 : Risk of serious damage to eyes.<br>R43 : May cause sensitization by skin contact.<br>R49/20/22 : Harmful : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.<br>R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.                                                                                      |
| Training advice                                                 | : See information supplied by the manufacturer.                                                                                                                                                                                                                                                                                                                                                                                                                                          |

The contents and format of this SDS are in accordance with COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

**DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this

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|                                                                                   |                   |                        |
|-----------------------------------------------------------------------------------|-------------------|------------------------|
|  | SAFETY DATA SHEET | Page : 6               |
|                                                                                   |                   | Revised edition no : 6 |
|                                                                                   |                   | Date : 6 / 1 / 2014    |
|                                                                                   |                   | Supersedes : 0 / 0 / 0 |
| Gulf Harmony AW 32                                                                |                   | 10103/32/1/6           |

product. If the product is used as a component in another product, this SDS information may not be applicable.

End of document

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Kingdom

Product Name: MOBIL 1 ESP FORMULA 5W-30  
Revision Date: 28 Feb 2020  
Page 1 of 10

## SAFETY DATA SHEET

| SECTION 1 | PRODUCT AND COMPANY IDENTIFICATION |
|-----------|------------------------------------|
|-----------|------------------------------------|

### PRODUCT

**Product Name:** MOBIL 1 ESP FORMULA 5W-30  
**Product Description:** Synthetic Base Stocks and Additives  
**Product Code:** 2015101010KD, 476341-85  
**Intended Use:** Engine oil

### COMPANY IDENTIFICATION

**Supplier:** East Coast Lubes Pty Ltd (Queensland and Northern Territory)  
A.B.N. 37 117 203 611  
Cnr North and Mort Streets  
Toowoomba, Queensland 4350 Australia

**24 Hour Emergency Telephone** 1300 131 001

**Supplier General Contact** 1800 069 019

**Supplier:** Southern Cross Lubes (Victoria and Tasmania, New South Wales and Australian Capital Territory)  
58-66 Ajax Road  
Altona, Victoria 3018, Australia

**24 Hour Emergency Telephone** 1300 131 001

**Product Technical Information** 1300 466 245

**Supplier General Contact** 1300 552 861

**Supplier:** Perkal Pty Ltd Trading as Statewide Oil (Western Australia)  
A.B.N. 43 009 283 363  
14 Beete Street  
Welshpool, Western Australia 6106 Australia

**24 Hour Emergency Telephone** (8:00am to 4:30pm Mon to Fri) 1300 919 904

**Product Technical Information** (08) 9350 6777

**Supplier General Contact** (08) 9350 6777

**Supplier:** Perkal Pty Ltd Trading as Statewide Oil (South Australia)  
A.B.N. 43 009 283 363  
6-10 Streliff Rd  
Wingfield, South Australia 5013 Australia

**24 Hour Emergency Telephone** (8:00am to 4:30pm Mon to Fri) 1300 919 904

**Product Technical Information** (08) 8359 8995

**Supplier General Contact** (08) 8359 8995

Product Name: MOBIL 1 ESP FORMULA 5W-30  
 Revision Date: 28 Feb 2020  
 Page 2 of 10

## SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

**Contains:** C14-16-18 ALKYL PHENOL May produce an allergic reaction.

**Other hazard information:**

### Physical / Chemical Hazards:

No significant hazards.

### Health Hazards:

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

### Environmental Hazards:

No significant hazards.

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

### Hazardous Substance(s) or Complex Substance(s) required for disclosure

| Name                             | CAS#         | Concentration* | GHS Hazard Codes |
|----------------------------------|--------------|----------------|------------------|
| C14-16-18 ALKYL PHENOL           | Confidential | 0.1 - < 1%     | H317, H373       |
| POLYOLEFIN POLYAMINE SUCCINIMIDE | 147880-09-9  | 1 - < 5%       | None             |

\*All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Other ingredients determined not to be hazardous up to 100%.

## SECTION 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 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

Product Name: MOBIL 1 ESP FORMULA 5W-30  
 Revision Date: 28 Feb 2020  
 Page 3 of 10

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

## EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

## INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

## NOTE TO PHYSICIAN

None

## SECTION 5 FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight streams of water

### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >200°C (392°F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** N/D

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

### PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

Product Name: MOBIL 1 ESP FORMULA 5W-30  
 Revision Date: 28 Feb 2020  
 Page 4 of 10

## SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material is a static accumulator.

### STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure limits/standards for materials that can be formed when handling this product:

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

### Biological limits

No biological limits allocated.

## ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

## PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Particulate

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Nitrile, Viton

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** 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. Discard contaminated clothing and footwear that cannot be cleaned. Practise good housekeeping.

## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

Product Name: MOBIL 1 ESP FORMULA 5W-30  
 Revision Date: 28 Feb 2020  
 Page 6 of 10

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

## GENERAL INFORMATION

**Physical State:** Liquid  
**Form:** Clear  
**Colour:** Amber  
**Odour:** Characteristic  
**Odour Threshold:** N/D

## IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 °C):** 0.851  
**Flammability (Solid, Gas):** N/A  
**Flash Point [Method]:** >200 °C (392 °F) [ASTM D-92]  
**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0  
**Autoignition Temperature:** N/D  
**Boiling Point / Range:** N/D  
**Decomposition Temperature:** N/D  
**Vapour Density (Air = 1):** > 2 at 101 kPa  
**Vapour Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 °C  
**Evaporation Rate (n-butyl acetate = 1):** N/D  
**pH:** N/A  
**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5  
**Solubility in Water:** Negligible  
**Viscosity:** 72.8 cSt (72.8 mm<sup>2</sup>/sec) at 40 °C | 12.1 cSt (12.1 mm<sup>2</sup>/sec) at 100 °C  
**Oxidizing Properties:** See Hazards Identification Section.

## OTHER INFORMATION

**Freezing Point:** N/D  
**Melting Point:** N/A  
**Pour Point:** -36 °C (-33 °F)

## SECTION 10 STABILITY AND REACTIVITY

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**INCOMPATIBLE MATERIALS:** Strong oxidisers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

### INFORMATION ON TOXICOLOGICAL EFFECTS

| Hazard Class                          | Conclusion / Remarks                                    |
|---------------------------------------|---------------------------------------------------------|
| <b>Inhalation</b>                     |                                                         |
| Acute Toxicity: No end point data for | Minimally Toxic. Based on assessment of the components. |

Product Name: MOBIL 1 ESP FORMULA 5W-30  
 Revision Date: 28 Feb 2020  
 Page 7 of 10

|                                                                |                                                                                                                |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| material.                                                      |                                                                                                                |
| Irritation: No end point data for material.                    | Negligible hazard at ambient/normal handling temperatures.                                                     |
| <b>Ingestion</b>                                               |                                                                                                                |
| Acute Toxicity: No end point data for material.                | Minimally Toxic. Based on assessment of the components.                                                        |
| <b>Skin</b>                                                    |                                                                                                                |
| Acute Toxicity: No end point data for material.                | Minimally Toxic. Based on assessment of the components.                                                        |
| Skin Corrosion/Irritation: No end point data for material.     | Negligible irritation to skin at ambient temperatures. Based on assessment of the components.                  |
| <b>Eye</b>                                                     |                                                                                                                |
| Serious Eye Damage/Irritation: No end point data for material. | May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.                       |
| <b>Sensitisation</b>                                           |                                                                                                                |
| Respiratory Sensitization: No end point data for material.     | Not expected to be a respiratory sensitizer.                                                                   |
| Skin Sensitization: No end point data for material.            | Not expected to be a skin sensitizer. Based on assessment of the components.                                   |
| <b>Aspiration:</b> Data available.                             | Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.                 |
| <b>Germ Cell Mutagenicity:</b> No end point data for material. | Not expected to be a germ cell mutagen. Based on assessment of the components.                                 |
| <b>Carcinogenicity:</b> No end point data for material.        | Not expected to cause cancer. Based on assessment of the components.                                           |
| <b>Reproductive Toxicity:</b> No end point data for material.  | Not expected to be a reproductive toxicant. Based on assessment of the components.                             |
| <b>Lactation:</b> No end point data for material.              | Not expected to cause harm to breast-fed children.                                                             |
| <b>Specific Target Organ Toxicity (STOT)</b>                   |                                                                                                                |
| Single Exposure: No end point data for material.               | Not expected to cause organ damage from a single exposure.                                                     |
| Repeated Exposure: No end point data for material.             | Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components. |

## OTHER INFORMATION

### For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies. Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

### Contains:

Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitising in test animals and humans.

### IARC Classification:

The following ingredients are cited on the lists below: None.

Product Name: MOBIL 1 ESP FORMULA 5W-30  
 Revision Date: 28 Feb 2020  
 Page 8 of 10

1 = IARC 1                      --REGULATORY LISTS SEARCHED--  
                                          2 = IARC 2A                      3 = IARC 2B

| SECTION 12 | ECOLOGICAL INFORMATION |
|------------|------------------------|
|------------|------------------------|

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

**ECOTOXICITY**

Material -- Not expected to be harmful to aquatic organisms.

**MOBILITY**

Base oil component -- Low solubility and floats and is expected to migrate from water to the land.  
 Expected to partition to sediment and wastewater solids.

| SECTION 13 | DISPOSAL CONSIDERATIONS |
|------------|-------------------------|
|------------|-------------------------|

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**DISPOSAL RECOMMENDATIONS**

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, 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.

| SECTION 14 | TRANSPORT INFORMATION |
|------------|-----------------------|
|------------|-----------------------|

**LAND (ADG) :** Not Regulated for Land Transport

Product Name: MOBIL 1 ESP FORMULA 5W-30  
 Revision Date: 28 Feb 2020  
 Page 9 of 10

**SEA (IMDG):** Not Regulated for Sea Transport according to IMDG-Code

**Marine Pollutant:** No

**AIR (IATA):** Not Regulated for Air Transport

## SECTION 15 REGULATORY INFORMATION

This material is not considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is not regulated according to Australian Dangerous Goods Code.

No Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.

AS1940 COMBUSTIBLE CLASS: C2

### REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

**Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA):** AIC, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

## SECTION 16 OTHER INFORMATION

### KEY TO ABBREVIATIONS AND ACRONYMS:

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

### KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H317: May cause allergic skin reaction; Skin Sensitization, Cat 1

H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2

H413: May cause long lasting harmful effects to aquatic life; Chronic Env Tox, Cat 4

### THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Composition: Component Table information was modified.

Composition: No components information was added.

Composition: No components information was deleted.

Section 15: National Chemical Inventory Listing information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to



Product Name: MOBIL 1 ESP FORMULA 5W-30  
Revision Date: 28 Feb 2020  
Page 10 of 10

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DGN: 7053753DAU (1009979)

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Prepared by: Exxon Mobil Corporation  
EMBSI, Clinton NJ USA  
Contact Point: See Section 1 for Local Contact number

**End of (M)SDS**

# Safety Data Sheet



## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### Delo 400 LE SAE 15W-40

**Product Use:** Heavy Duty Motor Oil  
**Product Number(s):** 219719, 222220, 278058  
**Synonyms:** Delo 400 LE SAE 15W-40 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:** Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

**Environmental Hazards:** Harmful to aquatic life with long lasting effects.

### PRECAUTIONARY STATEMENTS:

**Prevention:** Avoid release to the environment.

**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  |
| Zinc alkyl dithiophosphate             | 68649-42-3 | 1 - <2.5 %weight |

## SECTION 4 FIRST AID MEASURES

Revision Number: 9  
Revision Date: January 20, 2020

1 of 8

Delo 400 LE SAE 15W-40  
SDS : 17108

**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 (H<sub>2</sub>S) 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, H<sub>2</sub>S 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 H<sub>2</sub>S, see Chevron MSDS No. 301.

**SECTION 5 FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) 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: Phosphorus, Zinc, Sulfur.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

Revision Number: 9  
Revision Date: January 20, 2020

2 of 8

Delo 400 LE SAE 15W-40  
SDS : 17108

**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 (H<sub>2</sub>S) 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 H<sub>2</sub>S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H<sub>2</sub>S 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 H<sub>2</sub>S, 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.

Revision Number: 9  
Revision Date: January 20, 2020

3 of 7

Delo 400 LE SAE 15W-40  
SDS : 17108

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 MSDS 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:** Light to Brown  
**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:** 0.877 kg/l @ 15°C (59°F) (Typical)  
**Viscosity:** 14.60 mm2/s @ 100°C (212°F) (Minimum)  
**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) 204 °C (399 °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:** Alkyl Mercaptans (Elevated temperatures), Hydrogen Sulfide (Elevated temperatures)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

Revision Number: 9  
Revision Date: January 20, 2020

4 of 7

Delo 400 LE SAE 15W-40  
SDS : 17108

## 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.

**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 expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

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 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. 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/MDG 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-IARC Group 1     | 03=EPCRA 313         |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2B | 05=MA RTK            |
| 02=NTP Carcinogen   | 06=NJ RTK            |
|                     | 07=PA RTK            |

The following components of this material are found on the regulatory lists indicated.  
Zinc alkyl dithiophosphate 06, 07

#### CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: EINECS (European Union), ENCS (Japan), IECSC (China), TCSI (Taiwan).

#### NEW JERSEY RTK CLASSIFICATION:

Revision Number: 9  
Revision Date: January 20, 2020

6 of 7

Delo 400 LE SAE 15W-40  
SDS : 17108

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 02 - Environmental Classification information was added.  
SECTION 02 - Hazard Statements information was added.  
SECTION 02 - Hazards Otherwise Not Classified information was modified.  
SECTION 02 - Precautionary Statements information was added.  
SECTION 03 - Composition information was modified.  
SECTION 08 - General Considerations information was modified.  
SECTION 09 - Physical/Chemical Properties information was deleted.  
SECTION 09 - Physical/Chemical Properties information was modified.  
SECTION 12 - Ecological Information information was modified.  
SECTION 15 - Chemical Inventories information was modified.  
SECTION 15 - New Jersey Right To Know information was modified.  
SECTION 15 - Regulatory Information information was added.

**Revision Date:** January 20, 2020

#### 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.

Revision Number: 9  
Revision Date: January 20, 2020

7 of 7

Delo 400 LE SAE 15W-40  
SDS : 17108

## USED OIL

### MATERIAL SAFETY DATA SHEET



#### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** USED OIL

**SYNONYMS:** Waste oil; Used lubricating oil; Oil and water mixture

**PRODUCT PART  
NUMBER(S):** Not applicable.

**PRODUCT USE:** Oil or water mixture for re-refining or reprocessing.  
If this product is used in combination with other products, refer to the  
Material Safety Data Sheets for those products.

|                                                                                                                                                    |                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| These numbers are for<br>emergency use only. If<br>you desire non-emergency<br>product information,<br>please call a phone<br>number listed below. | <b>24-HOUR EMERGENCY PHONE NUMBERS</b>                                  |
|                                                                                                                                                    | <b>MEDICAL AND TRANSPORTATION (SPILL):</b><br><br><b>1-800-468-1760</b> |

**MANUFACTURER/ SUPPLIER:** Safety-Kleen Systems, Inc.  
5400 Legacy Drive  
Cluster II, Building 3  
Plano, Texas 75024  
USA  
**1-800-669-5740**  
[www.Safety-Kleen.com](http://www.Safety-Kleen.com)

**TECHNICAL INFORMATION:** 1-800-669-5740 Press 1 then 1 then Extension 7500

**MSDS FORM NUMBER:** 81451 **ISSUE:** September 20, 2007

**ORIGINAL ISSUE:** January 15, 1990 **SUPERSEDES:** June 11, 2007

**PREPARED BY:** Product MSDS Coordinator **APPROVED BY:** MSDS Task Force

# USED OIL MATERIAL SAFETY DATA SHEET

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| WT%       | NAME                                                                                                                               | SYNONYM  | CAS NO.    | OSHA PEL |        | ACGIH TLV® |        | LD <sup>a</sup> | LC <sup>b</sup> |
|-----------|------------------------------------------------------------------------------------------------------------------------------------|----------|------------|----------|--------|------------|--------|-----------------|-----------------|
|           |                                                                                                                                    |          |            | TWA      | STEL   | TWA        | STEL   |                 |                 |
| 80 to 100 | Lubricating oils, used                                                                                                             | Used oil | 70514-12-4 | N. Av.   | N. Av. | N. Av.     | N. Av. | N. Av.          | N. Av.          |
| 0 to 20*  | Water/solids                                                                                                                       | N. Av.   | N. Av.     | N. Av.   | N. Av. | N. Av.     | N. Av. | N. Av.          | N. Av.          |
| 0 to 10*  | Hydrocarbon solvents.<br>May include gasoline,<br>diesel fuel, jet fuel,<br>mineral spirits, etc.                                  | N. Av.   | N. Av.     | N. Av.   | N. Av. | N. Av.     | N. Av. | N. Av.          | N. Av.          |
| 0 to 1.5* | Metals.<br>May include lead, iron,<br>zinc, copper, chromium,<br>arsenic, nickel, and<br>others: each below 1.0<br>WT%.            | N. Av.   | N. Av.     | N. Av.   | N. Av. | N. Av.     | N. Av. | N. Av.          | N. Av.          |
| 0 to 1.0* | Polynuclear aromatics.<br>May include naphthalene,<br>fluoranthene,<br>phenanthrene, pyrene,<br>and others: each below<br>0.3 WT%. | N. Av.   | N. Av.     | N. Av.   | N. Av. | N. Av.     | N. Av. | N. Av.          | N. Av.          |
| 0 to 0.5* | Chlorinated solvents.                                                                                                              | N. Av.   | N. Av.     | N. Av.   | N. Av. | N. Av.     | N. Av. | N. Av.          | N. Av.          |

N. Av. = Not Available      \*Even though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

<sup>a</sup>Oral-Rat LD<sub>50</sub> (mg/kg)  
<sup>b</sup>Inhalation-Rat LC<sub>50</sub>

## SECTION 3: HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

#### APPEARANCE

Liquid, black and viscous (thick), petroleum odor.

#### WARNING!

#### PHYSICAL HAZARDS

Combustible liquid.

#### HEALTH HAZARDS

May be harmful if inhaled.

May be harmful if absorbed through skin.

May be harmful or fatal if swallowed.

May irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.

Suspect cancer hazard. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Contains material which can cause birth defects.

Contains material which can cause central nervous system damage.

#### ENVIRONMENTAL HAZARDS

Product may be toxic to fish, plants, wildlife, and/or domestic animals.

**USED OIL  
MATERIAL SAFETY DATA SHEET**

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**POTENTIAL HEALTH EFFECTS**

Effects may vary depending on material composition. Typical effects may include:

**INHALATION (BREATHING):** High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. Massive acute overexposure may cause rapid central nervous system depression, sudden collapse, coma, and/or death.

**EYES:** May cause irritation.

**SKIN:** May cause irritation. Product may be absorbed through the skin and cause harm as noted under **INHALATION (BREATHING)**.

**INGESTION (SWALLOWING):** May be harmful or fatal if swallowed. May cause throat irritation, nausea, vomiting, and central nervous system effects as noted under **INHALATION (BREATHING)**. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Individuals with pre-existing cardiovascular, liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

**CHRONIC:** Prolonged or repeated inhalation may cause oil pneumonia, lung tissue inflammation, fibrous tissue formation, and/or toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

**CANCER INFORMATION:** This product contains mineral oils, untreated or mildly treated, which can cause cancer. This product may contain hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics which can cause cancer. Risk of cancer depends on duration and level of exposure. For more information, see **SECTION 11: CARCINOGENICITY**.

**POTENTIAL ENVIRONMENTAL EFFECTS**

Product may be toxic to fish, plants, wildlife, and/or domestic animals.

Also see **SECTION 12: ECOLOGICAL INFORMATION**.

**USED OIL  
MATERIAL SAFETY DATA SHEET**

**SECTION 4: FIRST AID MEASURES**

**INHALATION:  
(BREATHING)** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

**EYES:** If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

**SKIN:** Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists.

**INGESTION:  
(SWALLOWING)** Do NOT induce vomiting. Immediately get medical attention. Call 1-800-468-1760 for additional information.  
If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by mouth.

**NOTE TO  
PHYSICIANS:** Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

**SECTION 5: FIRE FIGHTING MEASURES**

**FLASH POINT:** >200°F (93°C) (minimum) Pensky-Martens Closed Cup

**FLAMMABLE LIMITS IN AIR:** Not available.

**AUTOIGNITION  
TEMPERATURE:** Not available.

**HAZARDOUS COMBUSTION  
PRODUCTS:** Decomposition and combustion materials may be toxic.  
Burning may produce phosgene gas, nitrogen oxides, carbon monoxide, and unidentified organic compounds.

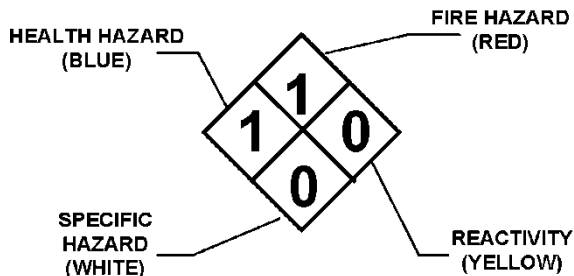
**CONDITIONS OF  
FLAMMABILITY:** Heat, sparks, or flame. Product may burn but does not ignite readily.

**EXTINGUISHING MEDIA:** Use carbon dioxide, regular foam, dry chemical, water spray, or water fog.

## USED OIL MATERIAL SAFETY DATA SHEET

### NFPA 704 HAZARD IDENTIFICATION:

This information is intended solely for the use by individuals trained in this system.



### FIRE FIGHTING INSTRUCTIONS:

Keep storage containers cool with water spray. A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

### FIRE AND EXPLOSION HAZARDS:

Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact. Product may be sensitive to static discharge, which could result in fire or explosion.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface waters and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **SECTION 15: REGULATORY INFORMATION**.

**USED OIL  
MATERIAL SAFETY DATA SHEET**

**SECTION 7: HANDLING AND STORAGE**

**HANDLING:** Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, storage tanks, tanker trucks, and rail tank cars should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes. Do not smoke while using this product.

**SHIPPING AND STORING:** Keep container tightly closed when not in use and during transport. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous. See **SECTION 14: TRANSPORT INFORMATION** for Packing Group information.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Use general ventilation, process enclosures, local exhaust ventilation, or other engineering controls to control air-borne levels. Where explosive mixtures may be present, equipment safe for such locations should be used.

**PERSONAL PROTECTIVE EQUIPMENT**

**RESPIRATORY PROTECTION:** A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

**EYE PROTECTION:** Wearing chemical goggles is recommended.  
Contact lens may be worn with eye protection.

**SKIN PROTECTION:** Where prolonged or repeated skin contact is likely, wear neoprene, nitrile (4 mil minimum), PVC (polyvinyl chloride), or equivalent protective gloves; wearing natural rubber or equivalent gloves is not recommended.

When product is heated and skin contact is likely, wear heat-insulating gloves, boots, and other protective clothing.

To avoid prolonged or repeated contact with product where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

**USED OIL  
MATERIAL SAFETY DATA SHEET**

**PERSONAL HYGIENE:** Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with the product.

**OTHER PROTECTIVE EQUIPMENT:** Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

|                                                    |
|----------------------------------------------------|
| <b>SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES</b> |
|----------------------------------------------------|

**PHYSICAL STATE, APPEARANCE, AND ODOR:** Liquid, black and viscous (thick), petroleum odor.

**ODOR THRESHOLD:** Not available.

**MOLECULAR WEIGHT:** Not applicable.

**SPECIFIC GRAVITY:** 0.8 to 1.0 at 60°F (15.6°C) (water = 1)

**DENSITY:** 6.7 to 8.3 LB/US gal (800 to 1000 g/l) (approximately)

**VAPOR DENSITY:** greater than 1 (air = 1) (based on kerosene)

**VAPOR PRESSURE:** Not available.

**BOILING POINT:** Not available.

**FREEZING/MELTING POINT:** Not available.

**pH:** Not applicable.

**EVAPORATION RATE:** less than 1 (butyl acetate = 1)

**SOLUBILITY IN WATER:** Slight.

**FLASH POINT:** >200°F (93°C) (minimum) Pensky-Martens Closed Cup

**FLAMMABLE LIMITS IN AIR:** Not available.

**AUTOIGNITION TEMPERATURE:** Not available.

**USED OIL  
MATERIAL SAFETY DATA SHEET**

**SECTION 10: STABILITY AND REACTIVITY**

- STABILITY:** Stable under normal temperatures and pressures. Avoid heat, sparks, or flame.
- INCOMPATIBILITY:** Avoid acids, alkalis, oxidizing agents, reducing agents, reactive halogens, or reactive metals.
- REACTIVITY:** Polymerization is not known to occur under normal temperatures and pressures. Not reactive with water.
- HAZARDOUS DECOMPOSITION PRODUCTS:** None under normal temperatures and pressures. Also see **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

**SECTION 11: TOXICOLOGICAL INFORMATION**

- SENSITIZATION:** Based on best current information, there may be known human sensitization associated with this product.
- MUTAGENICITY:** Based on best current information, there may be mutagenicity associated with this product.
- CARCINOGENICITY:** Mineral oils, untreated or mildly treated are listed by IARC as a known carcinogen. Mineral oils, untreated or mildly treated are classified by NTP as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by OSHA as known carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by IARC as known, probable, or possible carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are classified by NTP as known carcinogens or as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are recognized by ACGIH as confirmed or suspected human carcinogens.

Also see **SECTION 3: CANCER INFORMATION.**

**USED OIL  
MATERIAL SAFETY DATA SHEET**

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**REPRODUCTIVE TOXICITY:** Based on best current information, there may be reproductive toxicity associated with this product.

**TERATOGENICITY:** Based on best current information, there may be teratogenicity associated with this product.

**TOXICOLOGICALLY SYNERGISTIC PRODUCT(S):** Based on best current information, there may be toxicologically synergistic products associated with this product.

**SECTION 12: ECOLOGICAL INFORMATION**

**ECOTOXICITY:** Not available.

**OCTANOL/WATER PARTITION COEFFICIENT:** Not available.

**VOLATILE ORGANIC COMPOUNDS:** Not available.  
As per 40 CFR Part 51.100(s).

**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

**SECTION 14: TRANSPORT INFORMATION**

**DOT:** Not regulated.

**TDG:** Not regulated.

**EMERGENCY RESPONSE GUIDE NUMBER:** Not applicable.  
Reference *North American Emergency Response Guidebook*

**SECTION 15: REGULATORY INFORMATION**

**USA REGULATIONS SARA SECTIONS 302 AND 304:** Based on the ingredient(s) listed in **SECTION 2**, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

**USED OIL  
MATERIAL SAFETY DATA SHEET**

|                                                                  |                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SARA SECTIONS<br/>311 AND 312:</b>                            | This product poses the following physical and health hazards as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):<br>Immediate (Acute) Health Hazard<br>Delayed (Chronic) Health Hazard |
| <b>SARA SECTION<br/>313:</b>                                     | This product may contain "toxic" chemicals subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.                                                                                                                   |
| <b>CERCLA:</b>                                                   | This product may contain "hazardous substances" listed pursuant to Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4.                                                                                                                    |
| <b>TSCA:</b>                                                     | Not available.                                                                                                                                                                                                                                                                                               |
| <b>CALIFORNIA:</b>                                               | This product is not for sale or use in the State of California.                                                                                                                                                                                                                                              |
| <b>CANADIAN REGULATIONS<br/>WHMIS:</b>                           | Not regulated                                                                                                                                                                                                                                                                                                |
| <b>CANADIAN<br/>ENVIRONMENTAL<br/>PROTECTION ACT<br/>(CEPA):</b> | Not available.                                                                                                                                                                                                                                                                                               |

**SECTION 16: OTHER INFORMATION**

**REVISION INFORMATION:** Change from MSIS to MSDS.

**LABEL/OTHER INFORMATION:** Not available.

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product as supplied to the user.



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## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

#### SECTION 1. IDENTIFICATION

Product name : PROPANE

Synonyms : Propane HD-5, Propane commercial, Liquefied Petroleum Gas (LPG), C<sub>3</sub>H<sub>8</sub>, CGSB Propane Grade 1, CGSB Propane Grade 2, odorized propane, stench propane, automotive propane, ER62.

Product code : 100139

Manufacturer or supplier's details  
Petro-Canada  
P.O. Box 2844, 150 - 6th Avenue South-West  
Calgary Alberta T2P 3E3  
Canada

Emergency telephone number : CHEMTREC: 1-800-424-9300 (toll free) or +1 703-527-3887;  
Suncor Energy: +1 403-296-3000

#### Recommended use of the chemical and restrictions on use

Recommended use : Propane is used as a fuel gas, refrigerant and as a raw material for organic synthesis. It is also used as a laboratory gas. The grade determines the propane content. It is supplied as pressurized liquid in tanks.

Prepared by : Product Safety: +1 905-804-4752

#### SECTION 2. HAZARDS IDENTIFICATION

##### Emergency Overview

|            |                                                                                                               |
|------------|---------------------------------------------------------------------------------------------------------------|
| Appearance | Gas at room temperature; liquid when stored under pressure., compressed liquefied gas                         |
| Colour     | colourless                                                                                                    |
| Odour      | Propane is an odourless gas. Odourized propane will contain up to 30 g Ethyl Mercaptan per 1000 L of propane. |

##### GHS Classification

Flammable gases : Category 1

Gases under pressure : Liquefied gas

Simple Asphyxiant : Category 1

##### GHS label elements

## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

Hazard pictograms



Signal word

: Danger

Hazard statements

: Extremely flammable gas.  
Contains gas under pressure; may explode if heated.  
May displace oxygen and cause rapid suffocation.

Precautionary statements

: **Prevention:**  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
**Response:**  
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
In case of leakage, eliminate all ignition sources.  
**Storage:**  
Protect from sunlight. Store in a well-ventilated place.

#### Potential Health Effects

Primary Routes of Entry

: Eye contact  
Inhalation  
Skin contact

Aggravated Medical Condition

: None known.

#### Other hazards

None known.

#### IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Mixture

#### Hazardous components

| Chemical name | CAS-No.  | Concentration |
|---------------|----------|---------------|
| propane       | 74-98-6  | 90 - 100 %    |
| propene       | 115-07-1 | 1 - 5 %       |
| butane        | 106-97-8 | 1 - 2.5 %     |

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## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

|         |         |             |
|---------|---------|-------------|
| ethane  | 74-84-0 | 1 - 1.5 %   |
| methane | 74-82-8 | 0.1 - 0.2 % |

All above concentrations are percent by volume.

#### SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air.  
Artificial respiration and/or oxygen may be necessary.  
Seek medical advice.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Wash skin thoroughly with soap and water or use recognized skin cleanser.  
Wash contaminated clothing before reuse.  
Seek medical advice.
- In case of eye contact : Remove contact lenses.  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Obtain medical attention.
- If swallowed : Not a significant route of exposure.
- Most important symptoms and effects, both acute and delayed : Inhalation may cause central nervous system effects.  
Inhalation of vapours may cause drowsiness, headache, dizziness and disorientation.  
May cause irritation of respiratory tract.  
Contact with rapidly expanding gas may cause burns or frost-bite.  
Overexposure may lead to cardiac sensitization.  
High concentrations can remove oxygen and cause dizziness or suffocation.
- Notes to physician : Treat symptomatically.  
Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

#### SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : No information available.
- Specific hazards during fire-fighting : If the product release cannot be shut off safely, allow the product to burn itself out.  
Cool closed containers exposed to fire with water spray.
- Hazardous combustion products : Carbon oxides (CO, CO<sub>2</sub>), smoke and irritating vapours as products of incomplete combustion.

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Page: 3 / 11  
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## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

- |                                               |                                                                                                                                               |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Further information                           | : Prevent fire extinguishing water from contaminating surface water or the ground water system.                                               |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus and full protective wear.<br>Wear a positive-pressure supplied-air respirator with full face-piece. |

---

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

- |                                                                     |                                                                                                                                                                                                                      |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment.<br>Ensure adequate ventilation.<br>Evacuate personnel to safe areas.<br>In case of inadequate ventilation wear respiratory protection.<br>Remove all sources of ignition.       |
| Environmental precautions                                           | : If the product contaminates rivers and lakes or drains inform respective authorities.                                                                                                                              |
| Methods and materials for containment and cleaning up               | : Prevent further leakage or spillage if safe to do so.<br>Ensure adequate ventilation.<br>Use explosion-proof ventilation equipment.<br>Non-sparking tools should be used.<br>Contact the proper local authorities. |

---

#### SECTION 7. HANDLING AND STORAGE

- |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Advice on safe handling     | : For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>In case of insufficient ventilation, wear suitable respiratory equipment.<br>Avoid contact with skin, eyes and clothing.<br>Avoid breathing gas.<br>Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.<br>Use only with adequate ventilation.<br>Keep away from heat and sources of ignition.<br>Keep container closed when not in use.<br>Do not use sparking tools.<br>Do not enter areas where used or stored until adequately ventilated. |
| Conditions for safe storage | : Store in original container.<br>Containers which are opened must be carefully resealed and kept upright to prevent leakage.<br>Keep in a dry, cool and well-ventilated place.<br>Keep in properly labelled containers.<br>To maintain product quality, do not store in heat or direct sunlight.<br>Keep away from sources of ignition - No smoking.<br>Ensure the storage containers are grounded/bonded.                                                                                                                                                                                                                                    |

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## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

##### Components with workplace control parameters

| Components | CAS-No.  | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis     |
|------------|----------|----------------------------------|------------------------------------------------|-----------|
| propane    | 74-98-6  | TWA                              | 1,000 ppm                                      | CA AB OEL |
|            |          | TWA                              | 1,000 ppm                                      | CA BC OEL |
|            |          | TWAEV                            | 1,000 ppm<br>1,800 mg/m3                       | CA QC OEL |
| propene    | 115-07-1 | TWA                              | 500 ppm<br>860 mg/m3                           | CA AB OEL |
|            |          | TWA                              | 500 ppm                                        | CA BC OEL |
|            |          | TWA                              | 500 ppm                                        | ACGIH     |
| butane     | 106-97-8 | TWA                              | 1,000 ppm                                      | CA AB OEL |
|            |          | TWA                              | 600 ppm                                        | CA BC OEL |
|            |          | STEL                             | 750 ppm                                        | CA BC OEL |
|            |          | TWAEV                            | 800 ppm<br>1,900 mg/m3                         | CA QC OEL |
|            |          | STEL                             | 1,000 ppm                                      | ACGIH     |
| ethane     | 74-84-0  | TWA                              | 1,000 ppm                                      | CA AB OEL |
|            |          | TWA                              | 1,000 ppm                                      | CA BC OEL |

**Engineering measures** : Adequate ventilation to ensure that Occupational Exposure Limits are not exceeded.  
Use only in well-ventilated areas.  
Use explosion-proof ventilation equipment.

##### Personal protective equipment

Respiratory protection : 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.

Filter type : Always wear NIOSH-approved self-contained breathing apparatus when handling this material.

Hand protection  
Material : Wear insulated gloves to prevent frostbite. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.

Remarks : 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.

## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

|                          |                                                                                                                                                              |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye protection           | : Wear face-shield and protective suit for abnormal processing problems.                                                                                     |
| Skin and body protection | : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.                   |
| Protective measures      | : Wash contaminated clothing before re-use.<br>Wear suitable protective equipment.                                                                           |
| Hygiene measures         | : Remove and wash contaminated clothing and gloves, including the inside, before re-use.<br>Wash face, hands and any exposed skin thoroughly after handling. |

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                              |                                                                                                                                                                                                                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appearance                   | : Gas at room temperature; liquid when stored under pressure., compressed liquefied gas                                                                                                                                                                                             |
| Colour                       | : colourless                                                                                                                                                                                                                                                                        |
| Odour                        | : Propane is an odourless gas. Odourized propane will contain up to 30 g Ethyl Mercaptan per 1000 L of propane.                                                                                                                                                                     |
| Odour Threshold              | : No data available                                                                                                                                                                                                                                                                 |
| pH                           | : No data available                                                                                                                                                                                                                                                                 |
| Melting point/freezing point | : No data available                                                                                                                                                                                                                                                                 |
| Boiling point/boiling range  | : -42 °C (-44 °F)                                                                                                                                                                                                                                                                   |
| Decomposition temperature    | No data available                                                                                                                                                                                                                                                                   |
| Flash point                  | : -104 °C (-155 °F)<br>Method: closed cup                                                                                                                                                                                                                                           |
| Auto-Ignition Temperature    | : 450 °C (842 °F)                                                                                                                                                                                                                                                                   |
| Evaporation rate             | : No data available                                                                                                                                                                                                                                                                 |
| Flammability                 | : Extremely flammable in presence of open flames, sparks, and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. Rapid escape of vapour may generate static charge causing ignition. May accumulate in confined spaces. |
| Upper explosion limit        | : 9.5 %(V)                                                                                                                                                                                                                                                                          |
| Lower explosion limit        | : 2.1 %(V)                                                                                                                                                                                                                                                                          |
| Vapour pressure              | : 10,763 mmHg (38 °C / 100 °F)                                                                                                                                                                                                                                                      |
| Relative vapour density      | : 1.56                                                                                                                                                                                                                                                                              |

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## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

|                                        |                     |
|----------------------------------------|---------------------|
| Relative density                       | : No data available |
| Solubility(ies)                        |                     |
| Water solubility                       | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Viscosity                              |                     |
| Viscosity, kinematic                   | : No data available |

#### SECTION 10. STABILITY AND REACTIVITY

|                                    |                                                                                            |
|------------------------------------|--------------------------------------------------------------------------------------------|
| Reactivity                         | : No dangerous reaction known under conditions of normal use.                              |
| Chemical stability                 | : Stable under normal conditions.                                                          |
| Possibility of hazardous reactions | : Hazardous polymerisation does not occur.                                                 |
| Conditions to avoid                | : Heat, flames and sparks.                                                                 |
| Incompatible materials             | : Reactive with oxidising agents and halogenated compounds.                                |
| Hazardous decomposition products   | : May release CO <sub>x</sub> , smoke and irritating vapours when heated to decomposition. |

#### SECTION 11. TOXICOLOGICAL INFORMATION

##### Information on likely routes of exposure

Eye contact  
Inhalation  
Skin contact

##### Acute toxicity

###### Product:

|                           |                                                                              |
|---------------------------|------------------------------------------------------------------------------|
| Acute oral toxicity       | : Remarks: Based on available data, the classification criteria are not met. |
| Acute inhalation toxicity | : Remarks: Based on available data, the classification criteria are not met. |
| Acute dermal toxicity     | : Remarks: Based on available data, the classification criteria are not met. |

###### Components:

###### **butane:**

|                           |                        |
|---------------------------|------------------------|
| Acute inhalation toxicity | : LC50 (Rat): 658 mg/l |
|---------------------------|------------------------|

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## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

Exposure time: 4 h  
Test atmosphere: gas

#### Skin corrosion/irritation

**Product:**

Remarks: Based on available data, the classification criteria are not met.

#### Serious eye damage/eye irritation

**Product:**

Remarks: Based on available data, the classification criteria are not met.

#### Respiratory or skin sensitisation

**Product:**

Remarks: Based on available data, the classification criteria are not met.

#### Germ cell mutagenicity

**Product:**

Germ cell mutagenicity-  
Assessment

Based on available data, the classification criteria are not met.

#### Carcinogenicity

**Product:**

Carcinogenicity - As-  
sessment

Based on available data, the classification criteria are not met.

#### Reproductive toxicity

**Product:**

Reproductive toxicity -  
Assessment

Based on available data, the classification criteria are not met.

#### STOT - single exposure

**Product:**

Remarks: Based on available data, the classification criteria are not met.

#### STOT - repeated exposure

**Product:**

Remarks: Based on available data, the classification criteria are not met.

No data available

## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

#### SECTION 12. ECOLOGICAL INFORMATION

##### Ecotoxicity

###### Product:

|                                                     |   |                            |
|-----------------------------------------------------|---|----------------------------|
| Toxicity to fish                                    | : | Remarks: No data available |
| Toxicity to daphnia and other aquatic invertebrates | : | Remarks: No data available |
| Toxicity to algae                                   | : | Remarks: No data available |
| Toxicity to bacteria                                | : | Remarks: No data available |

##### Persistence and degradability

###### Product:

|                  |   |                            |
|------------------|---|----------------------------|
| Biodegradability | : | Remarks: No data available |
|------------------|---|----------------------------|

##### Bioaccumulative potential

No data available

##### Mobility in soil

No data available

##### Other adverse effects

No data available

#### SECTION 13. DISPOSAL CONSIDERATIONS

##### Disposal methods

|                     |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste from residues | : | The product should not be allowed to enter drains, water courses or the soil.<br>Offer surplus and non-recyclable solutions to a licensed disposal company.<br>Waste must be classified and labelled prior to recycling or disposal.<br>Send to a licensed waste management company.<br>Dispose of as hazardous waste in compliance with local and national regulations.<br>Dispose of product residue in accordance with the instructions of the person responsible for waste disposal. |
|---------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### SECTION 14. TRANSPORT INFORMATION

##### International Regulations

###### **IATA-DGR**

|           |   |         |
|-----------|---|---------|
| UN/ID No. | : | UN 1978 |
|-----------|---|---------|

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## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

Proper shipping name : Propane  
Class : 2.1  
Packing group : Not assigned by regulation  
Labels : Class 2 - Gases: Flammable (Division 2.1)  
Packing instruction (cargo aircraft) : 200

#### IMDG-Code

UN number : UN 1978  
Proper shipping name : PROPANE

Class : 2.1  
Packing group : Not assigned by regulation  
Labels : 2.1  
EmS Code : F-D, S-U  
Marine pollutant : no

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

#### National Regulations

##### TDG

UN number : UN 1978  
Proper shipping name : PROPANE

Class : 2.1  
Packing group : Not assigned by regulation  
Labels : 2.1  
ERG Code : 115  
Marine pollutant : no

## SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

#### The components of this product are reported in the following inventories:

**DSL** On the inventory, or in compliance with the inventory

## SECTION 16. OTHER INFORMATION

For Copy of SDS : Internet: [www.petro-canada.ca/msds](http://www.petro-canada.ca/msds)  
Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228  
For Product Safety Information: 1 905-804-4752

Prepared by : Product Safety: +1 905-804-4752

Revision Date : 2020/01/27

## SAFETY DATA SHEET

### PROPANE

000003000646



Version 3.0

Revision Date 2020/01/27

Print Date 2020/01/27

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.

**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : PURELL® Instant Hand Sanitizer

**Manufacturer or supplier's details**

Company name of supplier : GOJO Industries, Inc.

Address : One GOJO Plaza, Suite 500  
Akron, Ohio 44311

Telephone : 1 (330) 255-6000

Emergency telephone number : 1-800-424-9300 CHEMTREC

**Recommended use of the chemical and restrictions on use**

Recommended use : Hand Sanitizer

Restrictions on use : This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

Prepared by :

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

|                |                                 |
|----------------|---------------------------------|
| Physical state | liquid                          |
| Colour         | clear, colourless, light yellow |
| Odour          | citrus                          |

**GHS Classification**

Flammable liquids : Category 3

Eye irritation : Category 2A

**GHS label elements**

**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

Hazard pictograms



Signal word

: Warning

Hazard statements

: H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.

Precautionary statements

**Prevention:**  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.  
 P280 Wear eye protection/ face protection.

**Response:**  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**  
 P403 + P235 Store in a well-ventilated place. Keep cool.

**Disposal:**  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**Potential Health Effects**

Primary Routes of Entry

: Inhalation  
Eye contact  
Skin contact

Aggravated Medical Condition

: None known.

**Carcinogenicity:**

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****Hazardous components**

| Chemical name | CAS-No. | Concentration (%) |
|---------------|---------|-------------------|
| Ethyl Alcohol | 64-17-5 | >= 50 - < 70      |



**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

Isopropyl Alcohol

67-63-0

>= 1 - < 5

**SECTION 4. FIRST AID MEASURES**

- |                                                             |                                                                                                                                                                    |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General advice                                              | : In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.           |
| If inhaled                                                  | : If inhaled, remove to fresh air.<br>If symptoms persist, call a physician.                                                                                       |
| In case of skin contact                                     | : Wash with water and soap as a precaution.<br>Get medical attention if irritation develops and persists.                                                          |
| In case of eye contact                                      | : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.<br>If easy to do, remove contact lens, if worn.<br>Seek medical advice. |
| If swallowed                                                | : If swallowed, DO NOT induce vomiting.<br>Rinse mouth with water.<br>Obtain medical attention.                                                                    |
| Most important symptoms and effects, both acute and delayed | : Causes serious eye irritation.                                                                                                                                   |
| Protection of first-aiders                                  | : First Aid responders should pay attention to self-protection and use the recommended protective clothing                                                         |

**SECTION 5. FIREFIGHTING MEASURES**

- |                                      |                                                                                                                                                                                 |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media         | : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.                                                                                                      |
| Unsuitable extinguishing media       | : High volume water jet                                                                                                                                                         |
| Specific hazards during firefighting | : Do not use a solid water stream as it may scatter and spread fire.<br>Flash back possible over considerable distance.<br>May form explosive mixtures in air.<br>Carbon oxides |
| Hazardous combustion products        | : Carbon oxides                                                                                                                                                                 |
| Specific extinguishing methods       | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.                       |
| Further information                  | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.                                                                            |

**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Material can create slippery conditions.

Environmental precautions : Discharge into the environment must be avoided.  
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 : Non-sparking tools should be used.  
Soak up with inert absorbent material.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
Keep in suitable, closed containers for disposal.  
Clean contaminated floors and objects thoroughly while observing environmental regulations.

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : For personal protection see section 8.  
Keep away from heat.  
Use with local exhaust ventilation.  
Avoid contact with eyes.

Conditions for safe storage : Take measures to prevent the build up of electrostatic charge.  
Keep in properly labelled containers.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Store in accordance with the particular national regulations.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

| Components    | CAS-No. | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis     |
|---------------|---------|----------------------------------|------------------------------------------------|-----------|
| Ethyl Alcohol | 64-17-5 | TWA                              | 1,000 ppm<br>1,880 mg/m <sup>3</sup>           | CA AB OEL |
|               |         | STEL                             | 1,000 ppm                                      | CA BC OEL |

**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

|                   |         |       |                          |           |
|-------------------|---------|-------|--------------------------|-----------|
|                   |         | TWAEV | 1,000 ppm<br>1,880 mg/m3 | CA QC OEL |
|                   |         | STEL  | 1,000 ppm                | ACGIH     |
| Isopropyl Alcohol | 67-63-0 | TWA   | 200 ppm<br>492 mg/m3     | CA AB OEL |
|                   |         | STEL  | 400 ppm<br>984 mg/m3     | CA AB OEL |
|                   |         | TWA   | 200 ppm                  | CA BC OEL |
|                   |         | STEL  | 400 ppm                  | CA BC OEL |
|                   |         | TWAEV | 400 ppm<br>983 mg/m3     | CA QC OEL |
|                   |         | STEV  | 500 ppm<br>1,230 mg/m3   | CA QC OEL |
|                   |         | TWA   | 200 ppm                  | ACGIH     |
|                   |         | STEL  | 400 ppm                  | ACGIH     |

**Biological occupational exposure limits**

| Components        | CAS-No. | Control parameters | Biological specimen | Sampling time                   | Permissible concentration | Basis     |
|-------------------|---------|--------------------|---------------------|---------------------------------|---------------------------|-----------|
| Isopropyl Alcohol | 67-63-0 | Acetone            | Urine               | End of shift at end of workweek | 40 mg/l                   | ACGIH BEI |

**Personal protective equipment**

|                          |                                                                                                                                                                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respiratory protection   | : No personal respiratory protective equipment normally required.                                                                                                                                                                         |
| Hand protection          |                                                                                                                                                                                                                                           |
| Remarks                  | : No special protective equipment required.                                                                                                                                                                                               |
| Eye protection           | : Wear face-shield and protective suit for abnormal processing problems.                                                                                                                                                                  |
| Skin and body protection | : No special measures necessary provided product is used correctly.                                                                                                                                                                       |
| Protective measures      | : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.<br>Ensure that eye flushing systems and safety showers are located close to the working place. |
| Hygiene measures         | : Handle in accordance with good industrial hygiene and safety practice.<br>Avoid contact with eyes.                                                                                                                                      |

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

|            |                                   |
|------------|-----------------------------------|
| Appearance | : liquid                          |
| Colour     | : clear, colourless, light yellow |

**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

|                                         |                                                             |
|-----------------------------------------|-------------------------------------------------------------|
| Odour                                   | : citrus                                                    |
| Odour Threshold                         | : No data available                                         |
| pH                                      | : 6.0 - 9.2, (20 °C)                                        |
| Melting point/freezing point            | : No data available                                         |
| Initial boiling point and boiling range | : No data available                                         |
| Flash point                             | : 25.00 °C                                                  |
| Evaporation rate                        | : No data available                                         |
| Flammability (solid, gas)               | : Not applicable                                            |
| Upper explosion limit                   | : No data available                                         |
| Lower explosion limit                   | : No data available                                         |
| Vapour pressure                         | : No data available                                         |
| Relative vapour density                 | : No data available                                         |
| Density                                 | : 0.8933 g/cm <sup>3</sup>                                  |
| Solubility(ies)<br>Water solubility     | : soluble                                                   |
| Partition coefficient: n-octanol/water  | : Not applicable                                            |
| Auto-ignition temperature               | : No data available                                         |
| Thermal decomposition                   | : The substance or mixture is not classified self-reactive. |
| Viscosity<br>Viscosity, kinematic       | : 1000 - 35000 mm <sup>2</sup> /s (20 °C)                   |
| Explosive properties                    | : Not explosive                                             |
| Oxidizing properties                    | : The substance or mixture is not classified as oxidizing.  |

**SECTION 10. STABILITY AND REACTIVITY**

|                                    |                                                |
|------------------------------------|------------------------------------------------|
| Reactivity                         | : Not classified as a reactivity hazard.       |
| Chemical stability                 | : Stable under normal conditions.              |
| Possibility of hazardous reactions | : Vapours may form explosive mixture with air. |
| Conditions to avoid                | : Heat, flames and sparks.                     |



**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

Incompatible materials : Strong oxidizing agents  
Flammable solids  
Self-reactive substances and mixtures  
Water-reactive substances

**SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : Inhalation  
Eye contact  
Skin contact

**Acute toxicity**

Not classified based on available information.

**Components:**

**Ethyl Alcohol:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

**Isopropyl Alcohol:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 72.6 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Components:**

**Ethyl Alcohol:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation

**Isopropyl Alcohol:**

Species: Rabbit  
Result: No skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:**

**Ethyl Alcohol:**

Species: Rabbit  
Result: Irritation to eyes, reversing within 21 days  
Method: OECD Test Guideline 405



**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

**Isopropyl Alcohol:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

**Components:**

**Ethyl Alcohol:**

Test Type: Local lymph node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Result: negative

**Isopropyl Alcohol:**

Test Type: Buehler Test

Exposure routes: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: negative

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Ethyl Alcohol:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Test species: Mouse  
Application Route: Ingestion  
Result: negative

**Isopropyl Alcohol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Test species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:**

**Isopropyl Alcohol:**

Species: Rat

Application Route: inhalation (vapour)

Exposure time: 104 weeks

Method: OECD Test Guideline 451

Result: negative



**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Ethyl Alcohol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 416  
Result: negative

**Isopropyl Alcohol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on foetal  
development

: Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

**STOT - single exposure**

Not classified based on available information.

**Components:**

**Isopropyl Alcohol:**

Assessment: May cause drowsiness or dizziness.

**STOT - repeated exposure**

Not classified based on available information.

**Repeated dose toxicity**

**Components:**

**Ethyl Alcohol:**

Species: Rat  
NOAEL: 2,400 mg/kg  
Application Route: Ingestion  
Exposure time: 2 y

**Isopropyl Alcohol:**

Species: Rat  
NOAEL: 5000 ppm  
Application Route: inhalation (vapour)  
Exposure time: 104 w  
Method: OECD Test Guideline 413

**Aspiration toxicity**

Not classified based on available information.



**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

**Ethyl Alcohol:**

- |                                                                        |                                                                                                                     |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                                       | : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l<br>Exposure time: 96 h                                  |
| Toxicity to daphnia and other aquatic invertebrates                    | : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l<br>Exposure time: 48 h                                            |
| Toxicity to algae                                                      | : EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (Daphnia magna (Water flea)): 9.6 mg/l<br>Exposure time: 9 d                                                 |
| Toxicity to bacteria                                                   | : EC50 (Photobacterium phosphoreum): 32.1 mg/l<br>Exposure time: 0.25 h                                             |

**Isopropyl Alcohol:**

- |                                                     |                                                                                   |
|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| Toxicity to fish                                    | : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l<br>Exposure time: 24 h         |
| Toxicity to bacteria                                | : EC50 (Pseudomonas putida): > 1,050 mg/l<br>Exposure time: 16 h                  |

**Persistence and degradability**

**Components:**

**Ethyl Alcohol:**

- |                  |                                                                                 |
|------------------|---------------------------------------------------------------------------------|
| Biodegradability | : Result: Readily biodegradable.<br>Biodegradation: 84 %<br>Exposure time: 20 d |
|------------------|---------------------------------------------------------------------------------|

**Isopropyl Alcohol:**

- |                  |                              |
|------------------|------------------------------|
| Biodegradability | : Result: rapidly degradable |
|------------------|------------------------------|

**Bioaccumulative potential**

**Components:**

**Ethyl Alcohol:**

- |                                        |                  |
|----------------------------------------|------------------|
| Partition coefficient: n-octanol/water | : log Pow: -0.35 |
|----------------------------------------|------------------|

**Isopropyl Alcohol:**

- |                                        |                 |
|----------------------------------------|-----------------|
| Partition coefficient: n-octanol/water | : log Pow: 0.05 |
|----------------------------------------|-----------------|

**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

**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 : Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

**SECTION 14. TRANSPORT INFORMATION****International Regulation****IATA-DGR**

UN/ID No. : UN 1987  
Proper shipping name : Alcohols, n.o.s.  
(Ethanol, Propan-2-ol)  
Class : 3  
Packing group : III  
Packing instruction (cargo aircraft) : 366  
Packing instruction (passenger aircraft) : 355

**IMDG-Code**

UN number : UN 1987  
Proper shipping name : ALCOHOLS, N.O.S.  
(Ethanol, Propan-2-ol)  
Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-D  
Marine pollutant : no

**National Regulations****TDG**

UN number : UN 1987  
Proper shipping name : ALCOHOLS, N.O.S.  
(Ethanol, Propan-2-ol)  
Class : 3  
Packing group : III  
Labels : 3  
ERG Code : 127  
Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION**



**PURELL® Instant Hand Sanitizer**

Version 1.0

SDS Number: 400000000469

Revision Date: 01/31/2017

**WHMIS Classification** : B2: Flammable liquid  
D2B: Toxic Material Causing Other Toxic Effects

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**The components of this product are reported in the following inventories:**

TSCA : On TSCA Inventory  
AICS : On the inventory, or in compliance with the inventory  
DSL : On the inventory, or in compliance with the inventory  
ENCS : On the inventory, or in compliance with the inventory  
ISHL : On the inventory, or in compliance with the inventory  
KECI : On the inventory, or in compliance with the inventory  
PICCS : On the inventory, or in compliance with the inventory  
IECSC : On the inventory, or in compliance with the inventory  
NZIoC : On the inventory, or in compliance with the inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

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.

# MATERIAL SAFETY DATA SHEET



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EXTREME ROD GREASE

EMERGENCY PHONE NO. (604) 575-6660

PAGE 1 OF 4

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 0  
FIRE 1  
REACTIVITY 0  
OTHER: A (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

PRODUCT NAME: EXTREME ROD GREASE  
CHEMICAL IDENTIFICATION: Petroleum Hydrocarbon  
MATERIAL USE: Thick composition, industrial lubricant  
WHMIS CLASSIFICATION: Not controlled  
WORK PLACE HAZARD: Not applicable

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not dangerous goods  
PACKAGE GROUP: Not applicable  
CAS NUMBER: Not applicable  
MSDS CODE: Not applicable

## SECTION 2

## HAZARDOUS INGREDIENTS

INGREDIENT: Mixture of hydrotreated neutral base oil and additives  
PERCENTAGE: 100%  
CAS NUMBER: Not applicable  
LD (50): Acute oral toxicity (Rat): 5000 Mg/Kg  
LC (50): Not determined  
TLV-TWA: 5 Mg/m<sup>3</sup> (Oil Mist)

## EXTREME ROD GREASE

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                                                     |
|-----------------------------|---------------------------------------------------------------------|
| APPEARANCE AND ODOUR:       | Long fibered grease, greenish brown colour, mild grease like odour. |
| DENSITY (SPECIFIC GRAVITY): | .89                                                                 |
| BOILING POINT:              | 260°C                                                               |
| MELTING POINT:              | Not available                                                       |
| SOLUBILITY:                 | Insoluble in cold water, soluble in non-polar hydrocarbon solvents. |
| EVAPORATION RATE: (EE=1):   | Not available                                                       |
| VAPOUR PRESSURE: (MM HG):   | 0.0075 @ 20°C                                                       |
| VAPOUR DENSITY: (AIR = 1):  | Not available                                                       |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                        |
|-------------------------------------|--------------------------------------------------------|
| FLASHPOINT:                         | 252°C                                                  |
| FLAMMABLE LIMIT:                    | Not available                                          |
| AUTO IGNITION TEMP:                 | 316°C                                                  |
| EXTINGUISHING MEDIA:                | Dry chemical, foam, CO <sub>2</sub> , water spray, fog |
| SPECIAL FIRE FIGHTING PROCEDURES:   | None required                                          |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | None                                                   |

**SECTION 5****REACTIVITY DATA**

|                                        |                                                                                                 |
|----------------------------------------|-------------------------------------------------------------------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable                                                                                          |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Avoid excessive heat, highly reactive with oxidizing agents.                                    |
| HAZARDOUS POLYMERIZATION:              | Will not occur                                                                                  |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | Oxides of carbon and nitrogen, irritating fumes and smoke as products of incomplete combustion. |

## MATERIAL SAFETY DATA SHEET

## EXTREME ROD GREASE

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

(X) INHALATION

(X) INGESTION

## SKIN CONTACT:

## EYE CONTACT:

## INHALATION:

## INGESTION:

Non-irritating; for prolonged exposure wear gloves.

May irritate the eyes

Low vapour pressure, not expected to present inhalation exposure under normal conditions.

Low toxicity on ingestion; has laxative effect and rapidly eliminated.

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

## EYE PROTECTION:

## VENTILATION:

## RESPIRATORY PROTECTION:

## LEAK &amp; SPILL PROCEDURE:

## WASTE DISPOSAL:

## STORAGE REQUIREMENTS:

None normally required. Personal preference suggest gloves, boots and long sleeved clothing.

Wear safety glasses/goggles.

No special ventilation required for normal conditions.

None normally required. If mist generated by heating or spraying wear an organic vapour respirator with mist filter.

Contain spill. Use appropriate tools to place spilled material in a container for reclaiming or disposal.

Dispose of in compliance with local and government regulations.

Store in cool, dry area away from oxidizing agents.

Keep containers tightly closed when not in use.

## MATERIAL SAFETY DATA SHEET

## EXTREME ROD GREASE

**SECTION 8****FIRST AID MEASURES**

|             |                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SKIN:       | Wash gently and thoroughly with mild soap and water. Remove and launder contaminated clothes.                                                                    |
| EYE:        | Immediately flush eyes with running water for at least 15 minutes. Keep eyelids open. Do not use an eye ointment. Seek medical attention if irritation persists. |
| INHALATION: | Not expected under normal conditions. Remove victim to safe area, perform mouth to mouth resuscitation if victim is not breathing. Seek medical attention.       |
| INGESTION:  | Do not induce vomiting. Has laxative effect; rapidly eliminated. Medical assessment advised.                                                                     |

**SECTION 9****PREPARATION DATE**

|               |                          |
|---------------|--------------------------|
| DATE ISSUED:  | AUGUST 20, 2009          |
| DATE REVISED: | JANUARY 01, 2012         |
| BY:           | PRODUCT SAFETY COMMITTEE |

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EXTREME STOP

EMERGENCY PHONE NO. (604) 575-6660

PAGE 1 OF 4

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 0  
FIRE 0  
REACTIVITY 0  
OTHER: 0

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

|                          |                           |
|--------------------------|---------------------------|
| PRODUCT NAME:            | EXTREME STOP              |
| CHEMICAL IDENTIFICATION: | Acrylamide Copolymer      |
| MATERIAL USE:            | Lost Circulation Material |
| WHMIS CLASSIFICATION:    | Non Hazardous             |
| WORK PLACE HAZARD:       | Not Applicable            |

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

|                 |                     |
|-----------------|---------------------|
| CLASSIFICATION: | Not Dangerous Goods |
| PACKAGE GROUP:  | N/A                 |
| CAS NUMBER:     | N/A                 |
| MSDS CODE:      | N/A                 |

## SECTION 2

## HAZARDOUS INGREDIENTS

|             |                           |
|-------------|---------------------------|
| INGREDIENT: | None Considered Hazardous |
| PERCENTAGE: | N/A                       |
| CAS NUMBER: | N/A                       |
| LD (50):    |                           |
| LC (50):    |                           |

## EXTREME STOP

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                              |
|-----------------------------|----------------------------------------------|
| APPEARANCE AND ODOUR:       | White Freeflowing Granules, very mild odour. |
| DENSITY (SPECIFIC GRAVITY): | 1.05                                         |
| BOILING POINT:              | N/A                                          |
| MELTING POINT:              | N/A                                          |
| SOLUBILITY:                 | >60%                                         |
| EVAPORATION RATE: (EE=1):   | N/A                                          |
| VAPOUR PRESSURE: (MM HG):   | N/A                                          |
| VAPOUR DENSITY: (AIR = 1):  | N/A                                          |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                |
|-------------------------------------|------------------------------------------------|
| FLASHPOINT:                         | No Data                                        |
| FLAMMABLE LIMIT:                    | Not Determined                                 |
| AUTO IGNITION TEMP:                 | No Data                                        |
| EXTINGUISHING MEDIA:                | Dry chemical, foam, water fog, CO <sub>2</sub> |
| SPECIAL FIRE FIGHTING PROCEDURES:   | None                                           |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | None                                           |

**SECTION 5****REACTIVITY DATA**

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable                                      |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Oxidizing Agents                            |
| HAZARDOUS POLYMERIZATION:              | Will not occur                              |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | Oxides of Carbon as products of combustion. |

EXTREME STOP

## MATERIAL SAFETY DATA SHEET

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

( ) SKIN                      ( ) EYE CONTACT                      ( ) INHALATION                      ( ) INGESTION

SKIN CONTACT:

N/A

EYE CONTACT:

N/A

INHALATION:

N/A

INGESTION:

N/A

**SECTION 7****PREVENTATIVE MEASURES**

SKIN PROTECTION:

No special requirements.

EYE PROTECTION:

Goggles, may be nuisance dust.

VENTILATION:

No special requirements.

RESPIRATORY PROTECTION:

If nuisance dust use dust mask.

LEAK &amp; SPILL PROCEDURE:

Collect in container. Dispose with solid waste. Non hazardous.

WASTE DISPOSAL:

Dispose of in compliance with local and government regulations.

STORAGE REQUIREMENTS:

Store in a cool, dry area, away from oxidizing agents. Keep containers closed when not in use.

EXTREME STOP

## MATERIAL SAFETY DATA SHEET

**SECTION 8****FIRST AID MEASURES**

|             |     |
|-------------|-----|
| SKIN:       | N/A |
| EYE:        | N/A |
| INHALATION: | N/A |
| INGESTION:  | N/A |

**SECTION 9****PREPARATION DATE**

|               |                          |
|---------------|--------------------------|
| DATE ISSUED:  | AUGUST 20, 1996          |
| DATE REVISED: | JANUARY 01, 2012         |
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PAGE 1 OF 4

**EMERGENCY PHONE NO. (604) 575-6660**

**EXTREME SUPER-G BLUE**

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 1  
FIRE 2  
REACTIVITY 0  
OTHER: B (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

PRODUCT NAME: EXTREME SUPER-G BLUE  
CHEMICAL IDENTIFICATION: Anionic polyacrylamides in water oil emulsion  
MATERIAL USE: Drilling mud additive  
WHMIS CLASSIFICATION: B3, D2B  
WORK PLACE HAZARD: Combustible liquid; skin & eye irritant

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not dangerous goods  
PACKAGE GROUP: NA  
CAS NUMBER: NA  
MSDS CODE: NA

## SECTION 2

## HAZARDOUS INGREDIENTS

|             |                        |                                |                                   |
|-------------|------------------------|--------------------------------|-----------------------------------|
| INGREDIENT: | <u>Mineral spirits</u> | <u>Alkyl Phenol Ethoxylate</u> | <u>Ethoxylated C12-15 Alcohol</u> |
| PERCENTAGE: | 30-60                  | 3-7                            | 0.5-1.5                           |
| CAS NUMBER: | 64742-47-8             | 68412-54-4                     | 68131-39-5                        |
| LD (50):    | >5 g/kg                | 3 g/kg                         | >3200 mg/kg                       |
| LC (50):    | Undetermined           | Undetermined                   | Undetermined                      |

## EXTREME SUPER-G BLUE

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                    |
|-----------------------------|------------------------------------|
| APPEARANCE AND ODOUR:       | Blue liquid emulsion, slight odour |
| DENSITY (SPECIFIC GRAVITY): | NA                                 |
| BOILING POINT:              | NA                                 |
| MELTING POINT:              | NA                                 |
| SOLUBILITY:                 | Forms gel                          |
| EVAPORATION RATE: (EE=1):   | NA                                 |
| VAPOUR PRESSURE: (MM HG):   | NA                                 |
| VAPOUR DENSITY: (AIR = 1):  | NA                                 |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                                |
|-------------------------------------|----------------------------------------------------------------|
| FLASHPOINT:                         | 65°C (TCC)                                                     |
| FLAMMABLE LIMIT:                    | Undetermined                                                   |
| AUTO IGNITION TEMP:                 | Undetermined                                                   |
| EXTINGUISHING MEDIA:                | Water spray, foam, dry chemical & CO <sub>2</sub>              |
| SPECIAL FIRE FIGHTING PROCEDURES:   | Self-contained respirators required for firefighting personnel |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Water may cause slipperiness. Sensitivity to static discharge  |

**SECTION 5****REACTIVITY DATA**

|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable                                          |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong oxidizing agents, strong reducing agents |
| HAZARDOUS POLYMERIZATION:              | Will not occur                                  |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | NO <sub>x</sub> , CO <sub>x</sub>               |

## MATERIAL SAFETY DATA SHEET

## EXTREME SUPER-G BLUE

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(XX) SKIN

(XX) EYE CONTACT

( ) INHALATION

(XX) INGESTION

## SKIN CONTACT:

Irritant. Can cause redness, inflammation and irritation on prolonged contact

## EYE CONTACT:

Severe irritant. Can cause redness, tissue destruction and irritation

## INHALATION:

Unlikely

## INGESTION:

May cause nausea, diarrhea and abdominal cramps

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

Chemically resistant gloves

## EYE PROTECTION:

Safety glasses

## VENTILATION:

General mechanical

## RESPIRATORY PROTECTION:

NIOSH approved organic vapour cartridge respirator if exposure is excessive

## LEAK &amp; SPILL PROCEDURE:

Small spills: soak up with absorbent material  
Large spills: dike to contain spill to prevent water pollution. Recover diked material

## WASTE DISPOSAL:

Incinerate/dispose of in accordance with local regulations

## STORAGE REQUIREMENTS:

Store in a cool, well-ventilated area

## EXTREME SUPER-G BLUE

## MATERIAL SAFETY DATA SHEET

**SECTION 8****FIRST AID MEASURES**

|             |                                                                                                                                                                                                 |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SKIN:       | Wash exposed area with soap & water. If irritation or abnormalities persist seek medical attention. Remove contaminated clothing and launder prior to re-use                                    |
| EYE:        | Immediately flush eyes with water for 15 mins and seek medical attention                                                                                                                        |
| INHALATION: | Remove to fresh air. If irritation continues, seek medical attention                                                                                                                            |
| INGESTION:  | If conscious & alert, give 1-2 glasses water. Never give anything by mouth to an unconscious person. Seek medical attention; do not leave unconscious person unattended. Do not induce vomiting |

**SECTION 9****PREPARATION DATE**

|               |                          |
|---------------|--------------------------|
| DATE ISSUED:  | AUGUST 20, 1996          |
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PAGE 1 OF 4

**EMERGENCY PHONE NO. (604) 575-6660**

**EXTREME SUPER-G GOLD**

## WHMIS HAZARD INDEX:

### DEGREE OF HAZARD:

HEALTH 1  
FIRE 0  
REACTIVITY 0  
OTHER: B (GLASSES & GLOVES)

### HAZARD RATING:

0 LEAST  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 EXTREME

## SECTION 1

## PRODUCT IDENTIFICATION

PRODUCT NAME: EXTREME SUPER-G GOLD  
CHEMICAL IDENTIFICATION: Polysaccharide suspension  
MATERIAL USE: Drilling mud additive  
WHMIS CLASSIFICATION: D2B  
WORK PLACE HAZARD: Skin & eye irritant

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not dangerous goods  
PACKAGE GROUP: NA  
CAS NUMBER: NA  
MSDS CODE: NA

## SECTION 2

## HAZARDOUS INGREDIENTS

INGREDIENT: Ethoxylated nonyl phenol  
PERCENTAGE: 1-5  
CAS NUMBER: 9016-45-9  
LD (50): 5100mg/kg  
LC (50):

## EXTREME SUPER-G GOLD

## MATERIAL SAFETY DATA SHEET

**SECTION 3****PHYSICAL DATA**

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| APPEARANCE AND ODOUR:       | Opaque dark yellow to beige liquid – little odour |
| DENSITY (SPECIFIC GRAVITY): | 1.078                                             |
| BOILING POINT:              | Undetermined                                      |
| MELTING POINT:              | Undetermined                                      |
| SOLUBILITY:                 | Dispersible                                       |
| EVAPORATION RATE: (EE=1):   | Undetermined                                      |
| VAPOUR PRESSURE: (MM HG):   | Undetermined                                      |
| VAPOUR DENSITY: (AIR = 1):  | Undetermined                                      |

**SECTION 4****FIRE AND EXPLOSION**

|                                     |                                                   |
|-------------------------------------|---------------------------------------------------|
| FLASHPOINT:                         | Not flammable                                     |
| FLAMMABLE LIMIT:                    | Undetermined                                      |
| AUTO IGNITION TEMP:                 | NA                                                |
| EXTINGUISHING MEDIA:                | CO <sub>2</sub> ; Foam; Dry Chemical; Water Spray |
| SPECIAL FIRE FIGHTING PROCEDURES:   | NA                                                |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Forms slippery mixture with water                 |

**SECTION 5****REACTIVITY DATA**

|                                        |                                       |
|----------------------------------------|---------------------------------------|
| STABILITY (THERMAL, LIGHT, ETC.):      | Stable                                |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong Oxidizers & acids              |
| HAZARDOUS POLYMERIZATION:              | Will not occur                        |
| HAZARDOUS DECOMPOSITION PRODUCTS:      | CO <sub>2</sub> , smoke on combustion |

## MATERIAL SAFETY DATA SHEET

## EXTREME SUPER-G GOLD

**SECTION 6****HEALTH HAZARDS**

## ROUTE OF ENTRY:

(XX) SKIN

(XX) EYE CONTACT

( ) INHALATION

(XX) INGESTION

## SKIN CONTACT:

Irritant. Can cause redness &amp; irritation

## EYE CONTACT:

Severe irritant. Can cause redness &amp; irritation

## INHALATION:

Unlikely. May cause upper respiratory tract irritation

## INGESTION:

May cause nausea, diarrhea and/ or abdominal cramps

**SECTION 7****PREVENTATIVE MEASURES**

## SKIN PROTECTION:

Chemically resistant gloves

## EYE PROTECTION:

Safety glasses

## VENTILATION:

General mechanical

## RESPIRATORY PROTECTION:

NIOSH approved organic respirator if ventilation inadequate

## LEAK &amp; SPILL PROCEDURE:

Small spills: soak up with absorbent material  
Large spills: dike to contain spill to prevent water pollution. Water will cause extreme slipperiness

## WASTE DISPOSAL:

Incinerate/dispose of in accordance with local disposal regulations

## STORAGE REQUIREMENTS:

Store in a cool, well-ventilated area

## EXTREME SUPER-G GOLD

## MATERIAL SAFETY DATA SHEET

**SECTION 8****FIRST AID MEASURES**

|             |                                                                                                                                                                                             |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SKIN:       | Immediately wash with soap & water for 5 mins.<br>Seek medical help if irritation develops/persists                                                                                         |
| EYE:        | Hold eyelids open & flush with a steady stream of<br>water for 15 mins. Seek medical attention                                                                                              |
| INHALATION: | Unlikely. If respiratory irritation occurs, move to<br>fresh air. If symptoms continue, seek medical help                                                                                   |
| INGESTION:  | If conscious & alert, give 2 glasses water. Never<br>give unconscious person anything by mouth. Seek<br>medical help; do not leave unconscious person<br>unattended. Do not induce vomiting |

**SECTION 9****PREPARATION DATE**

|               |                          |
|---------------|--------------------------|
| DATE ISSUED:  | AUGUST 20, 1996          |
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