

BRONZITE EXPLORATION CORP.

Spill Contingency Plan

Somerset Trough Project

Somerset Island, Nunavut, Canada

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REVISION HISTORY

The table below is a revision history table that outlines the revisions made by Bronzite Exploration Corporation to this document.

Version	Date	Section	Summary of Changes
0	December 18, 2023	All	Support document for project proposal submission to the NPC.
1	May 16, 2024	3.1, 3.2	Added key contacts for spill reporting and spill management
		5.0	Added worst-case and alternative accidental scenarios section
		1.0	Added details on staff spill response training and spill definition
		2.0	Added relevant legislation and commitment to complying with all applicable regulations and guidelines
		Table 1	Clarified capacity requirements for secondary containment
		3.1	Included commitment to replenish spill response equipment after any materials are used
		3.1.1 – 3.1.3	Added new sections for spill recovery on land, in water, and on snow/ice
		Appendix B and C	Added new appendices for the NT-NU Spill Report Form and SDS for chemicals on site

1.0 Introduction

Bronzite Exploration Corporation (Bronzite) is a mineral exploration company holding mineral claims in the Western Somerset Island Watershed of Somerset Island, Nunavut. Bronzite is planning construction of a small camp on the claim block and conducting early exploration activities in 2025.

This Spill Contingency Plan (the SCP) has been developed in support of Bronzite's Somerset Trough Project proposal to the Nunavut Planning Commission (NPC), land use permit application to Crown-Indigenous and Northern Affairs Canada (CIRNAC), and water use authorization from the Nunavut Water Board. The purpose of the Plan is to provide a Spill Contingency Plan in accordance with the Northwest Territories-Nunavut Spill Contingency Planning and Reporting Regulations under the *Environmental Protection Act*. The Plan has been developed to describe spill prevention measures, spill response procedures, and regulatory reporting requirements for the proposed 2025 camp and exploration activities. Further and continual modifications and revisions to the SCP shall be completed based on future work scope modifications, emergency and spill response procedures, and associated approvals. Updates to the SCP shall be completed in accordance with terms and conditions of applicable permits and authorizations.

The 2025 field program will consist of airborne helicopter and fixed-wing surveys, prospecting, geological mapping, rock and channel sampling, and ground-based electromagnetic geophysical surveys. No drilling will take place during the 2025 field season, but drilling is currently planned to begin in 2026 or 2027. An exploration camp consisting primarily of Weatherhavens will be constructed within the Western Somerset Island Watershed and will include:

- 6 shared sleeper tents
- 1 kitchen/dining hall
- 2 camp dry tents
- 1 storage tent
- 1 first aid tent
- 1 washroom with 2 Pacto toilets and small handwashing sink
- 1 sample processing tent
- 1 incinerator building
- 1 generator building

See Figures 1 to 3, incl., for the general location and layout of the exploration camp, as well as the full extent of the Project area where exploration activities may take place. There are currently no plans to conduct ground-based work on Inuit Owned Lands during the 2025 field season. No ground-based work will be conducted on Inuit Owned Lands without the proper authorizations from either the Qikiqtani Inuit Association (QIA) or the Kitikmeot Inuit Association (KIA).

Figure 1. Project Location

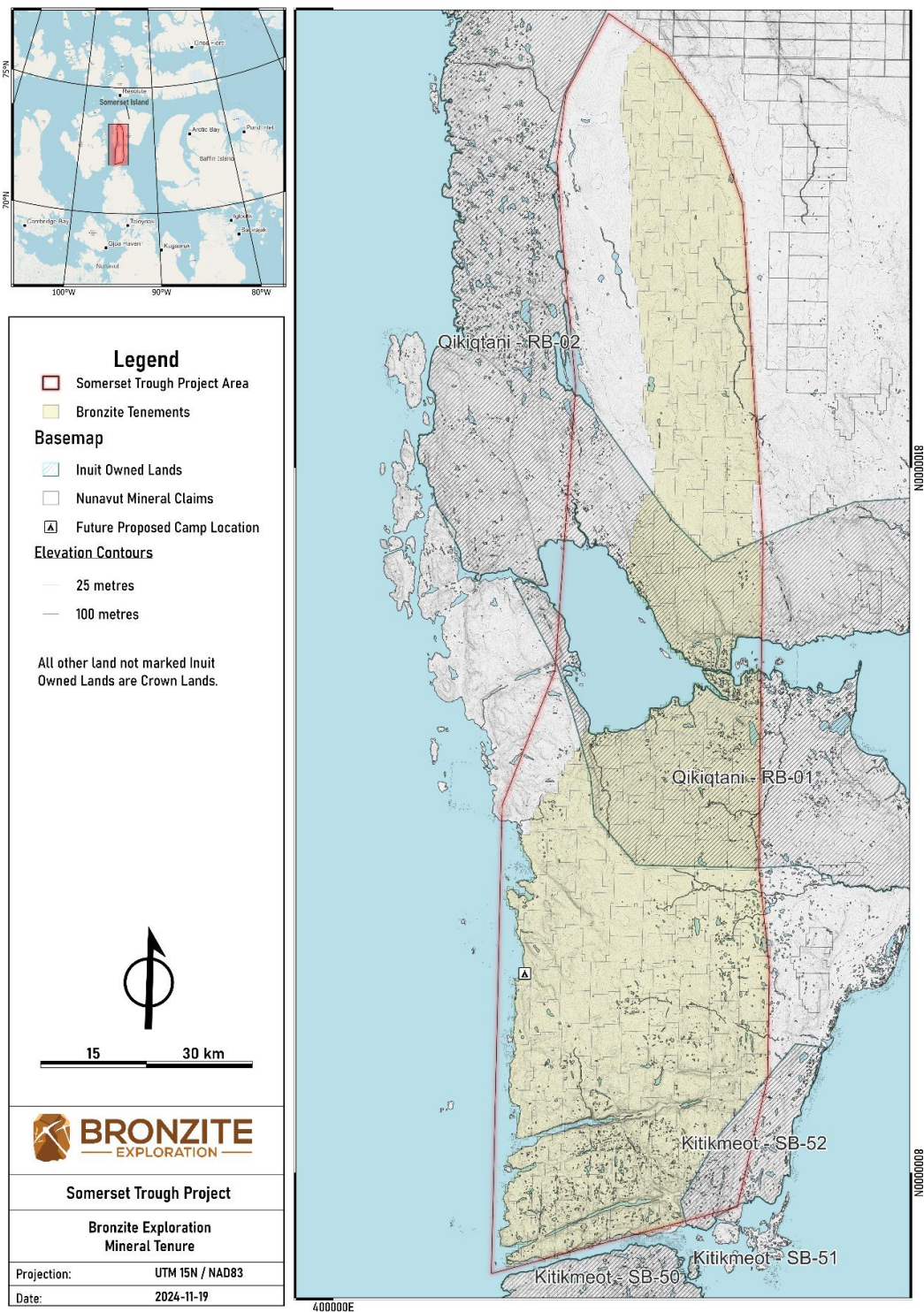


Figure 2. Camp Area

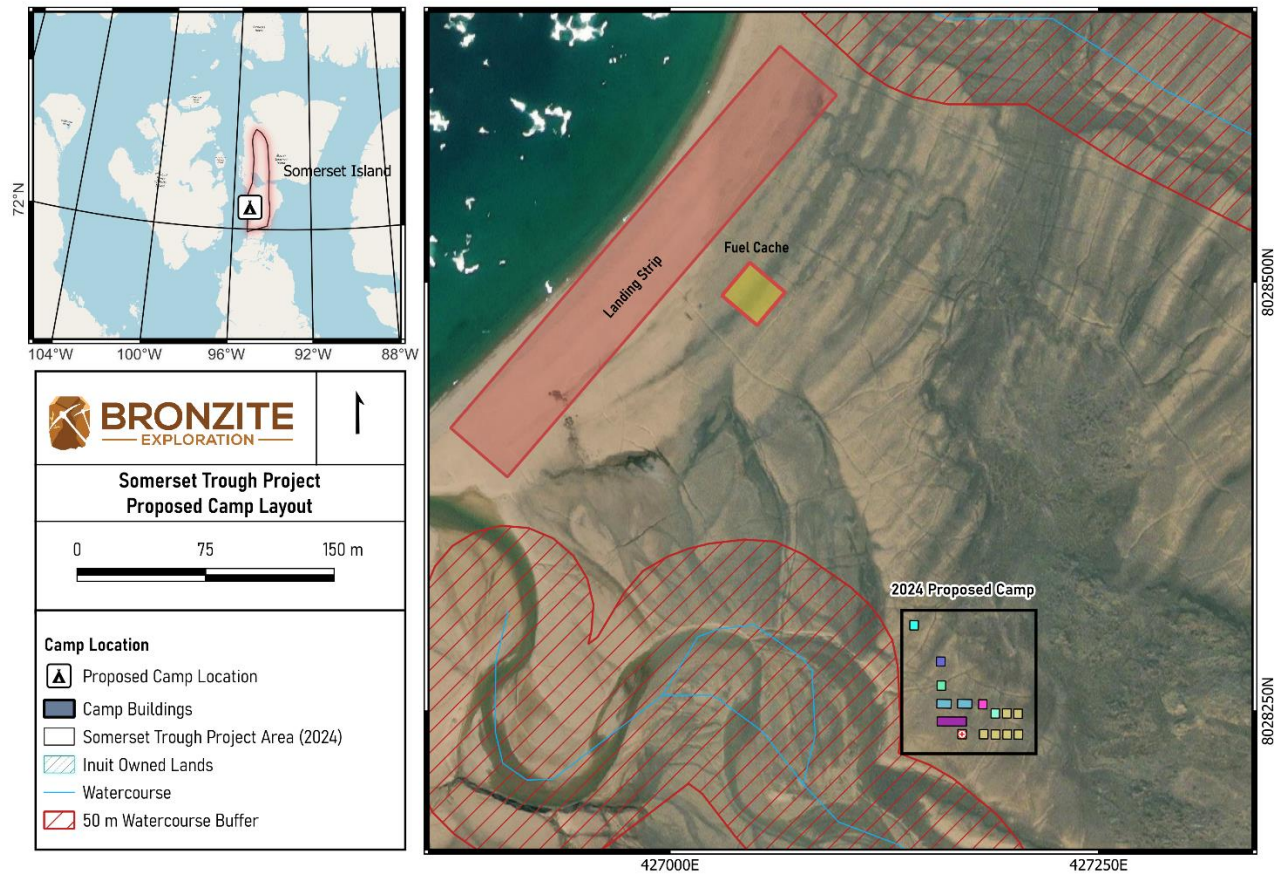
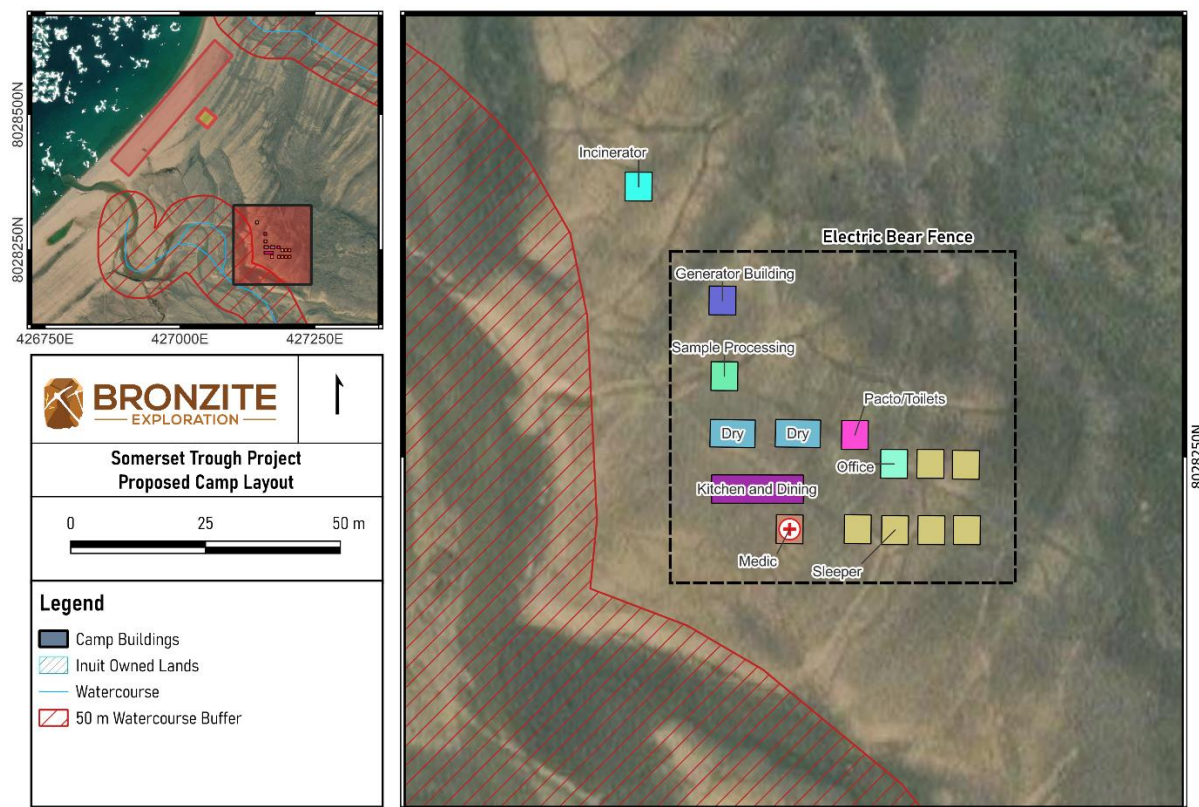


Figure 3. Camp Layout



A spill is defined as the release of a hazardous product out of its containment and into the environment. Such releases result in potential hazards to humans, vegetation, water resources, fish and wildlife. Severity of the spill depends on several factors including the nature of the material, quantity spilled, location, and season. For the 2025 field season, diesel, jet fuel (Arctic Diesel/P50 and Jet A), and gasoline are the primary products at risk for potential releases to the environment.

All employees and contractors working on site must be familiar with the fuel storage practices, spill prevention measures, and spill response actions detailed in this Spill Contingency Plan. The Plan will be printed and posted in the main kitchen tent at site and hands on training will be provided by supervisors. Training will include:

- Review of possible spill products present on site
- Full review of spill equipment on site, including spill kits, pumps, and pop-up berms
- Review of spill response procedures for different spill scenarios (on land, water, snow)
- Review of waste management associated with spill clean up
- Review of spill reporting procedures in Nunavut, as well as internal reporting requirements to camp supervisors

The site supervisor for the Somerset Trough Project, and main contact for all spill related matters is listed below:

Field Office:

Field/Camp Supervisor: _____

Email: _____

Bronzite Corporate Office:

Senior management: Samuel Robb, Director & Vice President

Mailing address: Bronzite Exploration Corp.

300-181 University Ave.

Toronto, ON M5H 3M7

Email: sam.robbs@bronziteexploration.com

2.0 Relevant Legislation

Bronzite intends to comply with all relevant territorial and federal legislation and to adhere to all applicable guidelines regarding spill reporting and spill management. Applicable legislation and guidelines include:

- *Environmental Protection Act, R.S.N.W.T. 1988*
- *Government of Nunavut, 1993, Spill Contingency Planning and Reporting Regulations, Environmental Protection Act, R-068-93.*
- *Contingency Planning and Spill Reporting in Nunavut – A Guide to the Regulations*
- *Fisheries Act, 2019, (R.S.C., 1985, c. F-14).*
- *Environment and Climate Change Canada, 1999, Canadian Environmental Protection Act (CEPA) S.C. 1999,*

2.0 Potential Spill Products Inventory

Given the limited scope of activities proposed for the 2025 field season, a limited number of hazardous products will be present onsite. All petroleum fuel containers will be stored at least 31 metres away from the Ordinary High-Water Mark of any water body. See Table 1 below for a list of hazardous materials stored on site which could lead to a spill. Table 1 will be updated in future iterations of the SPC as new drilling products are introduced to site.

Table 1. Project Hazardous Products Inventory

Material	Type of Storage Container	Maximum Quantity Onsite	Spill Prevention Measures
Jet fuel	205 L metal drums	400 drums	<ul style="list-style-type: none"> • Drums stored within secondary containment with at least 110% volume capacity of the largest container • Insta-berm and/or absorbent pad used to catch any drips during fuel transfer • Daily inspections of fuel cache to check for leaks or damaged drums, all issues to be addressed immediately • Helicopter fueling only conducted by qualified personnel (i.e., pilot or engineer) • Mark all fuel caches with flags, posts, or similar devices to make them plainly visible, even when buried under snow.
Diesel	205 L metal drums	95 drums	<ul style="list-style-type: none"> • Drums stored within secondary containment with at least 110% volume capacity of the largest container • Insta-berm and/or absorbent pad used to catch any drips during fuel transfer • Daily inspections of fuel cache to check for leaks or damaged drums, all issues addressed immediately • Mark all fuel caches with flags, posts, or similar devices to make them plainly visible, even when buried under snow.
Gasoline	205 L metal drum	5 drums	<ul style="list-style-type: none"> • Drums stored within secondary containment with at least 110% volume capacity of the largest container • Insta-berm and/or absorbent pad used to catch any drips during fuel transfer • Daily inspections of fuel cache to check for leaks or damaged drums, all issues addressed immediately

			<ul style="list-style-type: none"> Mark all fuel caches with flags, posts, or similar devices to make them plainly visible, even when buried under snow.
Liquid nitrogen	Insulated containers (dewars)	35 L	<ul style="list-style-type: none"> Containers stored in a secure, indoor location out of the elements Liquid nitrogen only handled by trained personnel that have reviewed the Safety Data Sheet (SDS) for the product

All waste products such as waste fuel, chemicals, or incinerator bottom ash will be handled in accordance with Bronzite's Waste Management Plan to prevent any spills from occurring. Safety Data Sheets (SDS) for these products, as well as other chemicals which are likely to be introduced for drilling in 2026 or 2027, can be found in Appendix B.

3.0 Response Plan

3.1 General Response Procedure

In the event of a spill, the following general steps will be followed:

1. Identify the source of the spill and, if possible, stop the flow.
2. Inform the site supervisor immediately and warn other personnel near the spill area.
3. In the absence of danger, contain the spill using spill response materials such as absorbent pads or absorbent booms.
4. Initiate clean-up and remedial actions, ensuring that GPS coordinates, photographs, and general notes (substance, estimated spill volume, etc.) are collected for reporting purposes.
5. Recover and contain as much free product as possible. Segregate contaminated soils, snow/ice or water, and absorbents in separate, clearly labelled 205 L metal drums fitted with lids for eventual shipment off site.
6. Track spill internally using the Spill Tracker (Appendix A).
7. As per the minimum reportable quantities in the *Spill Contingency Planning and Reporting Regulations*, all externally reportable spills, or any spill near or into water, will be reported to the 24-Hour Spill Report Line and the Inspector (see Table 2 for contact information). Section 11(1) of the *Spill Contingency Planning and Reporting Regulations* lists the information the person reporting the spill should provide, if possible, at the time of reporting.
8. Complete an NT-NU Spill Report form (Appendix C) with as much information as possible and email to spills.gov.nt.ca. Though not required by legislation, it is best practice to report all spills to the Spill Line and Inspector.
9. Replenish supplies within spill kits and other spill response equipment.
10. Within 30 days of the spill, the site supervisor or designate will submit a detailed report to the Inspector, as per conditions of the Project land use permit.

Additional guidance and instructions are provided in the sections below for spills on land and spills to fresh water, and spills on snow and ice.

3.1.1 Spills on Land

Based on the 2025 work plan, it is anticipated the most spills on site will occur on land and be easily controlled, contained, and cleaned up with materials available at the scene. These materials include absorbent pads and/or other materials included in the on-site spill kits (refer to Section 4).

The main spill control techniques for uncontrolled releases involve the use of two (2) types of barriers: dykes and trenches. Barriers should be placed down gradient (down-slope) from the source of the spill, and as close as possible to the source of the spill. Barriers slow the progression of the spill and serve as containment to allow for spill recovery.

Depending on the volume spilled, the site of the spill, and available material, a dyke may be built with soil, booms, lumber, snow, etc. A plastic liner should be placed at the foot of and over the dyke to protect the underlying soil or other material, and to facilitate recovery of the spill. Construct dykes to accumulate free product in a single area (V-shaped or U-shaped). Trenches are useful in the presence of permeable soil and when the spilled product is migrating below the ground surface. A plastic liner should be placed on the down-gradient edge of the trench to protect the underlying soil. Absorbent pads should be used to soak up residual fuel on water, on the ground (soil and rock), and on vegetation.

3.1.2 Spills to Fresh Water

Responses to spills in freshwater include the general procedures previously detailed. In the unlikely event of a spill to or near fresh water, the product quantity will likely be small. The containment, diversion and recovery techniques are discussed below. The following elements must be considered when conducting response operations:

- Type of water body or watercourse (i.e. lake, stream, river)
- Water depth and surface area
- Wind speed and direction
- Type of shoreline
- Seasonal considerations (open-water, freeze-up, ice break up, frozen)

Containment of a hydrocarbon slick on water requires the deployment of mobile floating booms to intercept, control, contain, and concentrate (i.e., increase thickness) the floating substance. Reducing the surface area of the slick increases its thickness and thereby improves recovery. Sorbent materials such as spill pads can be used to recover any free product.

If fuel is spilled in a smaller water body such as a small lake or pond, measures are taken to protect sensitive and accessible shoreline. The hydrocarbon slick is monitored to determine the direction of migration. In the absence of strong winds, the oil will likely flow towards the discharge of the lake.

Measures must be taken to block and concentrate the oil slick at the lake discharge, using booms, where it will limit spatial migration and subsequently allow for recovery using sorbent materials.

3.1.3 Spills on Snow and Ice

In general, snow and ice will slow the movement of any spilled hydrocarbons. Snow and frozen ground also prevent hydrocarbons from migrating down into soil, or at least slow the migration process. Ice prevents seepage of fuel into the underlying water body. Snow is generally a good natural sorbent, as hydrocarbons tend to be soaked up by snow through capillary action. However, the use of snow as absorbent material is to be limited as reasonably practical. The presence of snow may also hide the fuel slick and make it more difficult to follow its progression.

Response to spills on snow and ice includes the general procedures previously detailed. Most response procedures for spills on land may be used for spills on snow and ice. The use of dykes (i.e., compacted snow berms lined with plastic sheeting) or trenches (dug in ice) slow the progression of the fuel and serve as containment to allow for the recovery of the fuel. Free product is recovered by using sorbent materials. Contaminated snow and ice are scraped up manually and disposed of as per the WMP.

3.2 Key Contacts

The following are key contacts related to spills for Nunavut exploration and mining projects:

Table 2. Key Contacts

Contact	Phone
24-Hour Spill Report Line	(867) 920-8130
CIRNAC Inspector	(867) 975-4553
Government of Nunavut – Department of Environment, Manager of Environmental Protection	(867) 975-7748
Environment and Climate Change Canada, Enforcement Branch	(867) 975-4644

4.0 Spill Control Materials Inventory

Fully stocked spill kits will be maintained at the Project site and will be placed in an appropriate location near fuel storage and fuel transfer. Miscellaneous equipment present on site will be made available for spill response such as shovels, fuel transfer pumps, hand tools, and hoses/fittings.

A 305 L spill kit and instruction manual will be located at the fuel cache and will include:

(7) socks	Caution tape
(50) absorbent pads	Nitrile gloves
(5) pillows	Safety goggles
(1) roll absorbent cloth	Protective coveralls
Premixed plugging compound	(10) disposal bags
(4) Sorbent spill booms	

Smaller 20 L spill kits will also be used on site for activities such as fuel transfers. These spill kits include:

(7) socks	(2) disposal bags
(10) absorbent pads	5 L polyethylene pail
Nitrile gloves	Instruction booklet

Bronzite will ensure that a sufficient quantity of empty, sealed-top 205 L metal drums are present on site to manage all waste liquids, or to transfer liquids into if any drums are compromised. Open-top 205 L metal drums and/or lined mega bags (1 m³) will be available for storage of recovered free product, contaminated absorbents and contaminated soil. All recovered materials in drums and mega bags should be sealed stored within lined berms, prior to eventual shipment off site to an accredited waste recycling/disposal facility.

5.0 Potential Spills

Worst-case scenarios have been identified for various types of spills which could occur at the Project. Bronzite has identified potential risk areas and emergency response procedures for each of the scenarios.

5.1 Spills on Land

Hydrocarbons such as diesel, gasoline, and jet fuel are the most likely source of a spill at the Project. Table 1 describes the volume, storage container, and spill prevention measures for each of the fuel types. At this stage in the Project, fuel is stored in 205 L metal drums and no fuel tanks are present on site. The following are spill scenarios which could reasonably take place during the advanced exploration stage of the Project during the 2025 season.

5.1.1 Damage to fuel drums

Description of Incident	Spill from damaged fuel drum(s)
Potential causes	<ul style="list-style-type: none"> • Contact with equipment or puncture from skid steer forks • Drums dropped and damaged during transport • Slow leak from undetected damage to drum(s)
Products spilled	Diesel, gasoline, jet fuel
Maximum volume spilled	410 L
Immediate receiving medium	Containment berm
Spill response procedures	<ul style="list-style-type: none"> • Turn off ignition to equipment • If safe to do so, attempt to stop the flow of fuel and ensure spilled material is being captured by a pop-up berm or the main fuel cache containment berm • If the spill contacts the snow or soil, use materials from the closest spill kit to contain the spill as much as possible • Report the spill as per Section 3 • Recoverable fuel will be pumped into empty drums and stored as waste. Absorbent pads will be used to capture remaining fuel, and used pads will be properly disposed of as per the WMP. • Damaged drums will be pumped dry and shipped off site as waste. • Contaminated snow will be collected in empty 205 L barrels with lids or lined mega bags for disposal off site.

5.1.2 Aircraft or equipment leak

Description of Incident	Spill from aircraft or site equipment
Potential causes	<ul style="list-style-type: none"> • Damage to fluid reservoir in equipment • Serious damage to site helicopter or fixed wing aircraft causing major fuel spill • Slow, undetected leak from site equipment
Products spilled	Diesel, gasoline, jet fuel, engine oil, coolant
Maximum volume spilled	500 L (helicopter) 1,500 L (fixed-wing aircraft)
Immediate receiving medium	N/A
Spill response procedures	<ul style="list-style-type: none"> • Turn off ignition to equipment • Ensure personnel are safe and that ignition sources or other safety hazards are present • If safe to do so, attempt to stop the flow of fuel and ensure spilled material is being captured by a pop-up berm or other means • If the spill contacts the snow or soil, use materials from the closest spill kit to contain the spill as much as possible. If contents of the spill kit are insufficient, use equipment to construct an ice berm or soil berm around the spill to prevent spreading • Report the spill as per Section 3 • Recoverable fuel will be pumped into empty drums and stored as waste. Absorbent pads will be used to capture remaining fuel, and used pads will be properly disposed of as per the Waste Management Plan. • Contaminated snow will be collected in empty 205 L barrels with lids or lined mega bags for disposal off site.

5.1.3 Spill during refueling

Description of Incident	Spill from helicopter refueling
Potential causes	<ul style="list-style-type: none"> Faulty overflow protection or pumping equipment malfunction Operator error (inattentiveness, etc.) during refueling
Products spilled	Jet fuel
Maximum volume spilled	205 L
Immediate receiving medium	N/A
Spill response procedures	<ul style="list-style-type: none"> Turn off ignition to equipment Ensure personnel are safe and that ignition sources or other safety hazards are present If safe to do so, attempt to stop the flow of fuel and ensure spilled material is being captured by a pop-up berm If the spill contacts the snow or soil, use materials from the closest spill kit to contain the spill as much as possible. If contents of the spill kit are insufficient, use equipment to construct an ice berm or soil berm around the spill to prevent spreading Report the spill as per Section 3 Recoverable fuel will be pumped into empty drums and stored as waste. Absorbent pads will be used to capture remaining fuel, and used pads will be properly disposed of as per the Waste Management Plan. Contaminated snow will be collected in empty 205 L barrels with lids or lined mega bags for disposal off site.

5.1.4 Waste spill

Description of Incident	Spill from helicopter refueling
Potential causes	<ul style="list-style-type: none"> Damaged, leaking waste containers Overtaken waste containers Punctured waste container during transport
Products spilled	Waste hydrocarbons, incinerator bottom ash
Maximum volume spilled	205 L
Immediate receiving medium	N/A
Spill response procedures	<ul style="list-style-type: none"> Ensure personnel are safe and that ignition sources or other safety hazards are present If safe to do so, attempt to stop the flow of fuel and ensure spilled material is being captured by a pop-up berm If the spill contacts the snow or soil, use materials from the closest spill kit to contain the spill as much as possible. If contents of the spill kit are insufficient, use equipment to construct an ice berm or soil berm around the spill to prevent spreading In the event of a bottom ash spill on snow, collect all contaminated snow and ice in a metal 205 L drum with lid or lined mega bags to be shipped off as contaminated water/ash mixture. For an ash spill on soil, attempt to collect as much material as possible. Communicate with the Inspector to determine whether the tundra should be disturbed to collect the residual product. Report the spill as per Section 3 Recoverable fuel will be pumped into empty drums with lids and stored as waste. Absorbent pads will be used to capture remaining fuel, and used pads will be properly disposed of as per the Waste Management Plan. Contaminated snow will be collected in empty 205 L barrels with lids or lined mega bags for disposal off site.

6.0 Roles and Responsibilities

Bronzite Senior Management - Responsible for ensuring that the site supervisor is aware of spill response and reporting procedures, as well as appropriate mitigations to prevent spills from occurring. The Senior Management team will ensure that management plans are properly implemented and that the site supervisor is familiar with the conditions of site authorizations such as the land use permit.

Site Supervisor – Responsible for ensuring employees and contractors on site are aware of spill response equipment and procedures, as well as appropriate mitigations to prevent spills from occurring. The site supervisor is responsible for implementing management plans such as the Spill Contingency Plan to minimize environmental impacts from the Project. Should a spill occur, they will ensure proper documentation and that the appropriate authorities are notified in a timely manner.

Staff and Contractors – All personnel working on site must be familiar with the Spill Contingency Plan and understand how to respond to a spill. Staff and contractors must adhere to the Spill Contingency Plan to help minimize wildlife attractants and environmental risks created by the Project.

Appendix A: Spill Tracker

Date	Time	Location (Lat/Long)	Substance Spilled	Estimated Volume (L)	Spill # (externally reportable only)	Comments

Appendix B: Safety Data Sheets (SDS)

Antifreeze/Coolant

SECTION 1. IDENTIFICATION

Product Identifier	Antifreeze/Coolant
Other Means of Identification	16-242, 16-244, 16-244LAU, 16-245, 16-284, 16-284GD, 16-285, 26-248, 26-248-1000, 26-248LAU, 26-248PC, 26-249HD-1000, 26-289, 26-289-1000, 26-289PC, 26-378RLAU-1000, 26-769-1000, 26-769GR-1000, 26-929RLAU, 35-249FS, 35-759E, 36-241SO, 36-241U/N, 36-244APREXP, 36-244AX, 36-244AXEXP, 36-244C, 36-244CHR, 36-244CQ, 36-244E, 36-244FEDEXP, 36-244FS, 36-244PC, 36-244PM, 36-244PMEXP, 36-244PPEXP, 36-244PROFEXP, 36-244RAD, 36-244SH, 36-244SO, 36-244SP, 36-244SPROEXP, 36-244STP, 36-244STPEXP, 36-244TH, 36-244TOT, 36-244U/N, 36-244UFA, 36-244UG, 36-244WM, 36-244WM-S, 36-245UFA, 36-249AXEXP, 36-249CHR, 36-249E, 36-249GBW, 36-249SPROEXP, 36-249U/N, 36-254SO, 36-284CQ, 36-284E, 36-284FE, 36-284FOEXP, 36-284FS, 36-284STPEXP, 36-289E-1000, 36-289FE, 36-289FOEXP, 36-289FOEXP-1K, 36-289FS, 36-704JCBEXP, 55-929PEAK, 86-244-PRO, 86-244SY, 86-249, 86-249-1000, 86-284, 86-289, 86-699JD-1000, 86-709CAB, BULK-16240CL, BULK-16240HD, BULK-16245, BULK-16280, BULK-86245, BULK-86280, 36-249GUEXP, 36-249GUEXP-1K, 36-249LSEXP, 36-249LSEXP-1K, BULK-16720CL, 16-734GOEMF, 36-734U/N, 86-734GOEM, BULK-15720G, 16-734OOEMC, BULK-16720O, 36-734C, 36-734TOT, 86-734, 86-739-1000, BULK-15720R, 86-649JD, 16-734, 26-738-1000, 26-739, 26-739-N, 26-739PC, 26-739PC1, 36-734GD, 36-734UFA, 36-735SO, 36-735UFA, 36-739E, 36-739UFA, 86-739, 86-739SHER, BULK-16720R, 36-739SO, 26-728-1000, BULK-16720Y, BULK-86720Y, 36-774CHR, 36-779CHR, 18-108, 18-109, 18-109-1000, 18-109-40, BULK-18100, 38-109WO, 36-739LSEXP, 36-739LSEXP-1K, 36-735COA, 26-739-1000, 16-244X52
Other Identification	UF701 Coolant Concentrate, G-05 TERM ADD, Low Temperature Heat Transfer Fluid, 501 coolant concentrate
Recommended Use	Please refer to Product label.
Restrictions on Use	None known.
Manufacturer/Supplier Identifier	Recochem Inc., 850 Montee de Liesse, Montreal, QC, H4T 1P4, Compliance and Regulatory Department, 905-878-5544, www.recochem.com
Emergency Phone No.	CANUTEC, 613-996-6666, 24 Hours
SDS No.	1773

SECTION 2. HAZARD IDENTIFICATION

Classification

Acute toxicity (Oral) - Category 4; Reproductive toxicity - Category 1B; Specific target organ toxicity (repeated exposure) - Category 2

Label Elements



Signal Word:

Danger

Hazard Statement(s):

H302 Harmful if swallowed.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs (kidneys) through prolonged or repeated exposure following skin contact and/or if swallowed.

Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe fume, mist, vapours, spray.

P264 Wash hands and skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

P330 Rinse mouth.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

Storage:

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

Disposal:

Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Note:

0.1-1

. % of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Ethylene glycol	107-21-1	80-100		
SODIUM TETRABORATE PENTAHYDRATE	12179-04-3	0.1-1		

Notes

Use of Generic SDS:

If the concentration or actual concentration range of an ingredient of a particular hazardous product in the series is different from the concentration or actual concentration range disclosed for the rest of the series, either the concentration or the actual concentration range must be indicated beside that ingredient under item 3 (Composition/Information on ingredients) of the SDS. Furthermore, if any other specific information element(s) (such as flash point, numerical measure of toxicity, etc.) for a particular hazardous product in the series differs from that of the other products in the series (without affecting the classification), the information element relevant to that hazardous product must be disclosed on the SDS with an indication to which hazardous product each relates.

Product Identifier: Antifreeze/Coolant - Ver. 1

SDS No.: 1773

Date of Preparation: September 13, 2017

Date of Last Revision: September 01, 2020

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SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Call a Poison Centre or doctor if you feel unwell.

Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Call a Poison Centre or doctor if you feel unwell. Clean clothing, shoes and leather goods.

Eye Contact

If eye irritation persists, get medical advice or attention. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

Ingestion

Rinse mouth with water. Call a Poison Centre or doctor if you feel unwell.

Most Important Symptoms and Effects, Acute and Delayed

If swallowed: There are 3 stages of effects, which can overlap. Early symptoms can include upset stomach, slurred speech, clumsiness, drowsiness, and convulsions. Second stage symptoms can include rapid heartbeat and breathing, bluish lips and skin, fluid in the lungs and heart failure. In the last stage, there can be kidney stones and kidney damage with lower back pain, and increased then decreased urine production. There may be delayed nervous system effects such as paralysis of the face, clumsiness, impaired hearing and blurred vision. Death can occur at any stage.

Immediate Medical Attention and Special Treatment

Target Organs

Digestive system, nervous system, heart, digestive system, kidneys, skin.

Special Instructions

The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression and kidney injury. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. Treatment with ethanol to inhibit the metabolism of glycol to oxalate. Early administration of ethanol may counter the toxic effects of ethylene glycol (cardiopulmonary effects attributed to metabolic acidosis and renal damage). Hemodialysis or peritoneal dialysis have been of benefit. Pre-existing respiratory and skin disorders may be aggravated by over-exposure to this product. Treat symptomatically and supportively.

Medical Conditions Aggravated by Exposure

Dermatitis.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Can ignite if strongly heated.

In a fire, the following hazardous materials may be generated: irritating chemicals.

Special Protective Equipment and Precautions for Fire-fighters

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.

See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

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). Use spark-proof tools and explosion-proof equipment. 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

Put on appropriate personal protective equipment (see section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for Safe Storage

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Ethylene glycol	10 mg/m3	100 mg/m3	Not established	50 ppm		
SODIUM TETRABORATE PENTAHYDRATE	2 mg/m3	6 mg/m3	10 mg/m3	Not established		

Appropriate Engineering Controls

The hazard potential of this product is relatively low. General ventilation is usually adequate. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air.

Individual Protection Measures

Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

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Nitrile rubber.

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Available in these colours: Clear, Yellow, Gold, Red, Blue, Green, Amber, Pink, Orange, Purple, White, Brown, Grey, Teal.
Odour	Not available
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	-13 °C (9 °F) (Ethylene glycol) (melting); -13 °C (9 °F) (Ethylene glycol) (freezing)
Initial Boiling Point/Range	197 °C (387 °F)
Flash Point	111 °C (232 °F) (closed cup) (Ethylene glycol)
Evaporation Rate	< 0.01
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	21.6 - 22.0% (Ethylene glycol) (upper); 3.2% (Ethylene glycol) (lower)
Vapour Pressure	0.090 mm Hg (0.012 kPa) at 20 °C (Ethylene glycol)
Vapour Density (air = 1)	2.14 (estimated)
Relative Density (water = 1)	1.12 - 1.15 at 20 °C (Ethylene glycol)
Solubility	Not available in water; Soluble in all proportions in ketones (e.g. acetone).
Partition Coefficient, n-Octanol/Water (Log Kow)	-1.36 at 20 °C (Ethylene glycol)
Auto-ignition Temperature	398 °C (748 °F) (Ethylene glycol)
Decomposition Temperature	Not available
Viscosity	18.86 mm ² /s at 20 °C (estimated) (kinematic); 21 mPa.s at 20 °C (estimated) (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

High temperatures. Open flames, sparks, static discharge, heat and other ignition sources. Temperatures above 111.0 °C (231.8 °F)

Incompatible Materials

Slightly reactive or incompatible with the following materials: oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide).

Not corrosive to metals.

Hazardous Decomposition Products

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Very toxic carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Skin contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ethylene glycol	2725 mg/m3 (rat) (4-hour exposure)	1560 mg/kg Human - Male	9530 mg/kg (rabbit)
SODIUM TETRABORATE PENTAHYDRATE	Not available	2660 mg/kg (rat)	Not available

LC50: Not applicable.

LD50 (oral): Not applicable.

LD50 (dermal): Not applicable.

Skin Corrosion/Irritation

Human experience and animal tests show mild irritation.

Serious Eye Damage/Irritation

May cause serious eye irritation based on information for closely related materials. Symptoms include sore, red eyes, and tearing.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

At high concentrations as a mist nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption

At high concentrations may cause Symptoms may include redness, rash, swelling and itching.

Ingestion

Toxic, can cause death based on information for closely related materials. depression of the central nervous system, and effects on the heart and kidneys. In some cases, there may be delayed effects on the nervous system. There are 3 stages of effects, which can overlap. Early symptoms can include upset stomach, slurred speech, clumsiness, drowsiness, and convulsions. Second stage symptoms can include rapid heartbeat and breathing, bluish lips and skin, fluid in the lungs and heart failure. In the last stage, there can be kidney stones and kidney damage with lower back pain, and increased then decreased urine production. There may be delayed nervous system effects such as paralysis of the face, clumsiness, impaired hearing and blurred vision. Death can occur at any stage.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause dermatitis. Symptoms may include dry, red, cracked skin (dermatitis).

May cause Following skin contact and/or if swallowed: harmful effects on the kidneys.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ethylene glycol	Not Listed	A4	Not Listed	Not Listed
SODIUM TETRABORATE PENTAHYDRATE	Not Listed	A4	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

If swallowed: at high concentrations animal studies show effects on the offspring. Known to cause: decreased weight. Embryotoxic (late resorptions) teratogenic(external, soft tissue and skeletal defects) may harm the unborn child.

Sexual Function and Fertility

May cause effects on sexual function and/or fertility. (Sodium Salt of Boron Acid)

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

Other Information

TOXIC SUBSTANCE: KEEP AWAY FROM ANIMALS AND SMALL CHILDREN.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS.

This section is not required by OSHA HCS 2012.

Ecotoxicity

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Ethylene glycol	18500 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; fresh water)	74000 mg/L (Daphnia magna (water flea); 24 hr)		
SODIUM TETRABORATE PENTAHYDRATE	Not available	Not available		

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Ethylene glycol	39140 mg/L (Oncorhynchus mykiss (rainbow trout))		24000 mg/L (Daphnia magna (water flea))	
SODIUM TETRABORATE PENTAHYDRATE	Not available	Not available		

Persistence and Degradability

No information was located.

Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations.

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID (Ethylene glycol)	9	III

Environmental Hazards Not applicable (Ethylene glycol)

Special Precautions Please note: In single containers of 5000 lbs capacity or less this product is exempt from DOT regulations (non regulated). Does not require label or placards. Regulated Quantity (RQ)= 5000 lbs (2268 kg) (as ethylene glycol) For bulk shipments equal to or greater than Regulated Quantity (RQ), please adhere to classification as outlined in DOT Classification section.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Proof of Dangerous Goods Classification

Date of Classification December 06, 2016
Technical Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID
Classification 9 PG III
Classification Method As per regulation for ethylene glycol.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

California Proposition 65:

WARNING: Reproductive Harm - www.P65Warnings.ca.gov/product.

Custom Regulatory 1

Consumer Product Safety Improvement Act of 2008 General Conformity Certification

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the

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product container.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Compliance and Regulatory Department
Phone No.	905-878-5544
Date of Preparation	September 13, 2017
Date of Last Revision	September 01, 2020
Revision Indicators	<p>The following SDS content was changed on February 02, 2018: SECTION 1. IDENTIFICATION; Other Identification.</p> <p>The following SDS content was changed on May 28, 2019: SECTION 1. IDENTIFICATION; Other Means of Identification.</p> <p>The following SDS content was changed on July 03, 2019: SECTION 1. IDENTIFICATION; Other Means of Identification.</p> <p>The following SDS content was changed on July 24, 2019: SECTION 1. IDENTIFICATION; Other Means of Identification; Other Identification; SECTION 2. HAZARD IDENTIFICATION; Classification; Of the following product codes: BULK-16720CL, 16-734GOEMF, 36-734U/N, 86-734GOEM, BULK-15720G, 16-734OOEMC, BULK-16720O, 36-734C, 36-734TOT, 86-734, 86-739-1000, BULK-15720R, 86-649JD, 16-734, 26-738-1000, 26-739, 26-739-N, 26-739PC, 26-739PC1, 36-734GD, 36-734UFA, 36-735SO, 36-735UFA, 36-739E, 36-739UFA, 86-739, 86-739SHER, BULK-16720R, 36-739SO, 26-728-1000, BULK-16720Y, BULK-86720Y, 36-774CHR, 36-779CHR, 18-108, 18-109, 18-109-1000, 18-109-40, BULK-18100, 38-109WO</p> <p>The following SDS content was changed on October 30, 2019: SECTION 1. IDENTIFICATION; Other Means of Identification.</p> <p>The following SDS content was changed on April 09, 2020: SECTION 1. IDENTIFICATION; Other Identification.</p> <p>The following SDS content was changed on September 01, 2020: SECTION 1. IDENTIFICATION; Other Means of Identification.</p>
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
Additional Information	<p>We are committed to uphold the Industry Consumer Ingredient Communication Voluntary Initiative.</p> <p>Please send us your request by visiting our website at www.recochem.com.</p> <p>Ingredients present (intentionally added ingredients) at a concentration of greater than one percent (1%) shall be listed in descending order of predominance. Ingredients present at a concentration of not more than one percent shall be listed but may be disclosed without respect to order of predominance.</p>
Disclaimer	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.

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SAFETY DATA SHEET



DIESEL FUEL

SDS Number: 000003000395

Version: 8.0

Revision Date: 2024/10/28

Print Date: 2024/10/30

SECTION 1. IDENTIFICATION

- Product name : DIESEL FUEL
- Product code : 11803, 11802, 11798, 12016, 11958, 11796, 11771, 11770, 11769, 11768, 11767, 11766, 11612, 11560, 11558, 11555, 11437, 11302, 10979, 10978, 10977, 10976, 10975, 10974, 10973, 10972, 10971, 10970, 10969, 10968, 10966, 10965, 10964, 10786, 10785, 10784, 10783, 10690, 10689, 10687, 10636, 10635, 10626, 10621, 10616, 10610, 10601, 10600, 10598, 10595, 10427, 10041
- Other means of identification : 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 (BX where X is representative of volume %), Renewable Diesel blend (RX where X is represent ative of volume %), Diesel Low Cloud (LC), Marine Gas Oil, Marine Gas Oil Dyed, Type A Diesel, Type B Diesel.

Manufacturer or supplier's details

- Company name of supplier : Petro-Canada
- Address : P.O. Box 2844, 150 - 6th Avenue South-West
Calgary, Alberta T2P 3E3
Canada, Telephone: 1-866-786-2671
- Emergency telephone : 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, marine diesel oil, marine gas oil and naval distillates may have a higher flash point requirement.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

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Flammable liquids	: Category 3
Acute toxicity (Inhalation)	: Category 4
Skin irritation	: Category 2
Eye irritation	: Category 2B
Carcinogenicity	: Category 2
Specific target organ toxicity - repeated exposure	: Category 2 (Liver, thymus, Bone)
Aspiration hazard	: Category 1

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H315 + H320 Causes skin and eye irritation.
H332 Harmful if inhaled.
H351 Suspected of causing cancer.
H373 May cause damage to organs (Liver, thymus, Bone) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON

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CENTER/ doctor.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P331 Do NOT induce vomiting.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

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.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Fuels, diesel; Gasoil — unspecified	Fuels, diesel; Gasoil — unspecified	68334-30-5	25 - 100
Alkanes, C10-20-branched and linear	Alkanes, C10-20-branched and linear	928771-01-1	<= 75
Fatty acids, C14-18 and C14-18-unsatd., Me esters	Fatty acids, C14-18 and C14-18-unsatd., Me esters	129756-24-7	<= 20
Fuel oil No. 2	Fuel oil No. 2	68476-30-2	<= 0.2

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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 | : | Harmful if inhaled.
Respiratory, skin and eye irritation; nausea; cancer. |
| An indication of immediate medical attention and special treatment needed, if necessary | : | Treat symptomatically.
For specialist advice physicians should contact the Poisons Information Service. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | | |
|---------------------------------------|---|--|
| Suitable extinguishing media | : | Dry chemical
Carbon dioxide (CO ₂)
Water fog.
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 ₂), nitrogen oxides (NO _x), sulphur oxides (SO _x), smoke and irritating vapours as products of |

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incomplete combustion.

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters : 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.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.

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.
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.

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Keep in a dry, cool and well-ventilated place.
Keep in properly labeled 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

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Fuels, diesel; Gasoil — unspecified	68334-30-5	TWA	100 mg/m ³ (total hydrocarbons)	CA AB OEL
		TWA (inhalable fraction and vapour)	100 mg/m ³ (total hydrocarbons)	CA BC OEL
		TWAEV (inhalable fraction and vapour)	100 mg/m ³ (total hydrocarbons)	CA QC OEL
		TWA (Inhalable fraction and vapor)	100 mg/m ³ (total hydrocarbons)	ACGIH
Fuel oil No. 2	68476-30-2	TWA (Inhalable fraction and vapor)	100 mg/m ³ (total hydrocarbons)	CA AB OEL
		TWA (Inhalable fraction and vapor)	100 mg/m ³ (total hydrocarbons)	CA BC OEL
		TWAEV (Inhalable fraction and vapor)	100 mg/m ³ (total hydrocarbons)	CA QC OEL
		TWA (Inhalable fraction and vapor)	100 mg/m ³ (total hydrocarbons)	CA ON OEL
		TWA (Inhalable fraction and vapor)	100 mg/m ³ (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.

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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 safety glasses with side shields or goggles. Wear face-shield if splashing hazard is likely. Chemical splash goggles and a full-face shield should be worn when handling this material.

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. Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Bright oily liquid.

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Color	:	Clear to yellow (This product may be dyed red for taxation purposes)
Odor	:	Mild petroleum oil like.
pH	:	No data available
Melting point and freezing point	:	No data available
Boiling point, or initial boiling point and boiling range	:	150 - 371 °C
Flash point	:	> 40 °C Method: closed cup Marine Gas Oil/Naval Distillate: 60°C min Mining Diesel: 52°C min All other Diesel fuels: 40°C min
Flammability	:	Flammable liquid
Upper explosion limit / Upper flammability limit	:	6 %(V)
Lower explosion limit / Lower flammability limit	:	0.7 %(V)
Vapor pressure	:	7.5 mmHg (20 °C)
Relative vapor density	:	4.5
Relative density	:	0.8 - 0.88
Density	:	No data available
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	204 °C
Decomposition temperature	:	No data available

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Viscosity
Viscosity, kinematic : 1.3 - 4.1 cSt (40 °C)

Particle characteristics
Particle size : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable at normal ambient temperature and pressure.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerization 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_x, NO_x, SO_x, 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

Harmful if inhaled.

Product:

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

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/L
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

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

Components:

Fuels, diesel; Gasoil — unspecified:

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Acute oral toxicity : LD50 (Rat): 7,500 mg/kg
Acute inhalation toxicity : LC50 (Rat): 4.1 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Acute dermal toxicity : LD50 (Mouse): 24,500 mg/kg

Fuel oil No. 2:

Acute oral toxicity : LD50 (Rat): 12,000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes eye irritation.

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Germ cell mutagenicity

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

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

May cause damage to organs (Liver, thymus, Bone) through prolonged or repeated exposure.

Aspiration toxicity

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

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Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : 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 labeled 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.

Contaminated packaging : Contact local or business unit authorities for guidance on disposal of product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

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

IMDG-Code

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UN number : UN 1202
Proper shipping name : DIESEL FUEL

Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : yes

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number : UN 1202
Proper shipping name : DIESEL FUEL

Class : 3
Packing group : III
Labels : 3
ERG Code : 128
Marine pollutant : yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

NPRI Components : Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified
naphthalene
1,2,4-trimethylbenzene
toluene
propan-2-ol
methanol

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table

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	2: OEL)
CA BC OEL	: Canada. British Columbia OEL
CA ON OEL	: Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	: Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	: 8-hour time weighted average
CA AB OEL / TWA	: 8-hour time weighted average
CA BC OEL / TWA	: 8-hour time weighted average
CA ON OEL / TWA	: 8-hour time weighted average
CA QC OEL / TWA	: Time-weighted average exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 2024/10/28

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

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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.

CA / EN

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1. Identification

Product identifier	HYDRAULIC OIL AW 22
Other means of identification	No data available.
Recommended use:	Hydraulic fluid
Restrictions on use:	Industrial use only

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name: FUCHS LUBRICANTS CANADA LTD.
Address: 405 Dobbie Drive
Cambridge, ON N1T 1S8
Telephone: 519-622-2040
Fax: 519-622-2220
Contact Person: Technical Services Department

Emergency telephone number: 519-622-2040 (Bus. hrs) CANUTEC 1-888-226-8832 (24 hrs)

2. Hazard identification

Hazard Classification

Not classified as hazardous under GHS

Label Elements

Hazard Symbol:	No symbol
Signal Word:	No signal word.
Hazard Statement:	Not applicable
Precautionary Statements	Not applicable

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Lubricating oils, refined used	Lubricating oils, refined used,	68476-77-7	80 - 100%
Aryl phosphite		101-02-0	0.1 - 1%
Butylated phenol	Butylated phenol,	128-39-2	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion:	Rinse mouth thoroughly. Call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting.
Inhalation:	Move to fresh air. Call a POISON CENTER/doctor if you feel unwell.
Skin Contact:	Remove contaminated clothing and shoes. Wash contact areas with soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact:	Flush thoroughly with water. If irritation occurs, get medical assistance. Continue to rinse for at least 15 minutes.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, fog, CO2, dry chemical, or regular foam. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Heat may cause the containers to explode. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ensure adequate ventilation.

Methods and material for containment and cleaning up: Absorb with sand or other inert absorbent. Stop the flow of material, if this is without risk.

Environmental Precautions: Avoid release to the environment. Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Do not expose to intense heat as product may expand and pressurize container.

Conditions for safe storage, including any incompatibilities: Store in original tightly closed container. Avoid contact with oxidizing agents. Store away from incompatible materials.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: No data available.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from supervisor on the company's respiratory protection standards.

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 to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Pale yellow

Odor: Mild

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: 200 °C

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.

Flammability limit - lower (%): No data available.

Explosive limit - upper: No data available.

Explosive limit - lower: No data available.

Vapor pressure: No data available.

Vapor density: No data available.

Density: No data available.

Relative density: 0.848

Solubility(ies)

Solubility in water: Insoluble in water

Solubility (other): No data available.

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

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Viscosity: 22 mm²/s (40 °C)

10. Stability and reactivity

Reactivity: Not reactive during normal use.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: None under normal conditions.

Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Prolonged skin contact may cause redness and irritation.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	ATEmix: 2000 - 5000 mg/kg
Dermal	
Product:	ATEmix: 2000 - 5000 mg/kg
Inhalation	
Product:	

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

Product:	No data available.
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Skin Corrosion/Irritation

Product:	No data available.
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Serious Eye Damage/Eye Irritation

Product:	No data available.
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Respiratory or Skin Sensitization

Product:	No data available.
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Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

ACGIH Carcinogen List:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log K_{ow})
Product: No data available.

Mobility in soil: No data available.
Other adverse effects: No data available.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. It is the responsibility of the product user or owner to determine at the time of disposal, which waste regulations must be applied.

Contaminated Packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG
Not Regulated.

IMDG
Not Regulated.

IATA
Not Regulated.

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)

Not Regulated

Export Control List (CEPA 1999, Schedule 3)

Not Regulated

National Pollutant Release Inventory (NPRI)

Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements

NPRI	Toluene	Listed.
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Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)

NPRI	Not Regulated
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Greenhouse Gases

Not Regulated

16. Other information, including date of preparation or last revision

Issue Date: 02/16/2024

Revision Date: 02/16/2024

Version #: 1.0

Further Information: No data available.

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

SAFETY DATA SHEET



GASOLINE, UNLEADED

SDS Number: 000003000644

Version: 5.0

Revision Date: 2024/11/22

Print Date: 2024/11/23

SECTION 1. IDENTIFICATION

Product name : GASOLINE, UNLEADED

Product code : 11949, 11000, 10999, 10998, 10995, 10993, 10991, 10990, 10989, 10988, 10987, 10474, 10473, 10461, 10455, 10111, 10108, 10097, 10096, 10040, 10039

Other means of identification : LVB87, Regular, Unleaded Gasoline (US Grade), Mid-Grade, Plus, Super, Supreme, SuperClean, RegularClean, Plus-Clean, Premium, marked or dyed gasoline, BOB, Blendstock for Oxygenate Blending, Conventional Gasoline, RUL, MUL, SUL, PUL, Additive Denaturant, LVBU (low volatility blend ultra), LVBR (low volatility blend regular).

Manufacturer or supplier's details

Company name of supplier : Petro-Canada

Address : P.O. Box 2844, 150 - 6th Avenue South-West
Calgary, Alberta T2P 3E3
Canada, Telephone: 1-866-786-2671

Emergency telephone : 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 : 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.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 1

Skin irritation : Category 2

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1A

Reproductive toxicity : Category 2

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

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- single exposure

Specific target organ toxicity : Category 1 (hematopoietic system)
- repeated exposure (Inhalation)

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H224 Extremely flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs (hematopoietic system) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air

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and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Gasoline; Low boiling point naphtha - unspecified	Gasoline; Low boiling point naphtha - unspecified	86290-81-5	80 - 100
toluene	toluene	108-88-3	<= 40
benzene	benzene	71-43-2	0.006 - 1.5
ethanol	ethanol	64-17-5	<= 0.3
methanol	methanol	67-56-1	<= 0.08

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

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	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	: Respiratory, skin and eye irritation; nausea; cancer. Inhalation may cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Chronic exposure to benzene may result in increased risk of leukemia and other blood disorders.
An indication of immediate medical attention and special treatment needed, if necessary	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Dry chemical Carbon dioxide (CO ₂) Water fog. 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 ₂), nitrogen oxides (NO _x), 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	: Wear self-contained breathing apparatus and full protective

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for fire-fighters

wear.

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.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.
- 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.
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 labeled containers.
To maintain product quality, do not store in heat or direct sunlight.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
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
toluene	108-88-3	TWA	20 ppm	CA BC OEL
		TWAEV	20 ppm	CA QC OEL
		TWA	50 ppm	CA AB OEL
		TWA	20 ppm	ACGIH
benzene	71-43-2	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	0.5 ppm	CA QC OEL
		STEV	2.5 ppm	CA QC OEL
		TWA	0.5 ppm	CA AB OEL
		STEL	2.5 ppm	CA AB OEL
		TWA	0.02 ppm	ACGIH
		STEL	0.1 ppm	ACGIH
ethanol	64-17-5	STEL	1,000 ppm	CA BC OEL
		STEV	1,000 ppm	CA QC OEL
		TWA	300 ppm	CA AB OEL
		STEL	500 ppm	CA AB OEL
		STEL	1,000 ppm	ACGIH
methanol	67-56-1	TWA	200 ppm	CA BC OEL
		STEL	250 ppm	CA BC OEL
		TWA	200 ppm	CA AB OEL
		STEL	250 ppm	CA AB OEL
		TWA	200 ppm	ACGIH
		STEL	250 ppm	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

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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.

Protective measures : Wash contaminated clothing before re-use.

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Clear liquid.

Color : Clear to slightly yellow or green, undyed liquid. May be dyed red for taxation purposes.

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Odor	:	Gasoline
pH	:	No data available
Melting point and freezing point	:	No data available
Boiling point, or initial boiling point and boiling range	:	25 - 225 °C
Flash point	:	-50 - -38 °C Method: Tagliabue.
Flammability	:	Extremely flammable in presence of open flames and sparks. May accumulate static electrical charge. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back.
Upper explosion limit / Upper flammability limit	:	7.6 %(V)
Lower explosion limit / Lower flammability limit	:	1.3 %(V)
Vapor pressure	:	< 802.5 mmHg (20 °C)
Relative vapor density	:	3
Relative density	:	0.685 - 0.8
Density	:	No data available
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	257 °C
Decomposition temperature	:	No data available
Viscosity Viscosity, kinematic	:	No data available
Particle characteristics Particle size	:	Not applicable

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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 polymerization 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 COx, NOx, 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

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

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 20 mg/L Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

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:

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

Acute inhalation toxicity : LC50 (Rat): > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapor

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: vapor

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: vapor

methanol:

Acute oral toxicity : LD50 (Rat): 5,600 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 15,800 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

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

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

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STOT-single exposure

May cause drowsiness or dizziness.

STOT-repeated exposure

Causes damage to organs (hematopoietic system) through prolonged or repeated exposure if inhaled.

Aspiration toxicity

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/aquatic plants : Remarks: No data available

Toxicity to microorganisms : 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 labeled prior to recycling or disposal.
Send to a licensed waste management company.
Dispose of as hazardous waste in compliance with local and national regulations.

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Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

Contaminated packaging : Contact local or business unit authorities for guidance on disposal of product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 1203
Proper shipping name : Gasoline
Class : 3
Packing group : II
Labels : Flammable Liquids
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 : yes

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number : UN 1203
Proper shipping name : GASOLINE

Class : 3
Packing group : II
Labels : 3
ERG Code : 128
Marine pollutant : yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

NPRI Components : toluene
benzene

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ethanol
methanol
xylene
Naphtha (petroleum), hydrotreated heavy; Low boiling point
hydrogen treated naphtha
ethylbenzene
Solvent naphtha (petroleum), heavy arom.; Kerosine — un-
specified
naphthalene
1,2,4-trimethylbenzene

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
CA AB OEL / STEL	:	Short term exposure limit
CA AB OEL / TWA	:	Time weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA ON OEL / STEL	:	Short-Term Exposure Limit (STEL)
CA QC OEL / TWA	:	Time-weighted average exposure value
CA QC OEL / STEL	:	Short-term exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA

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- International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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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.

CA / EN

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SECTION 1. IDENTIFICATION

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

Product code : 11028, 10093

Other means of identification : Jet A-1; Jet A-1-DI; Aviation Turbine Kerosene (ATK); Aviation Turbine Fuel

Manufacturer or supplier's details

Company name of supplier : SUNCOR ENERGY INC.

Address : P.O. Box 2844, 150 - 6th Avenue South-West
Calgary, Alberta T2P 3E3
Canada, Telephone: 1-866-786-2671

Emergency telephone : 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 : 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.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

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

GHS label elements

Hazard pictograms :



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Signal Word	: Danger
Hazard Statements	: H226 Flammable liquid and vapor. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H361 Suspected of damaging fertility or the unborn child.
Precautionary Statements	: Prevention: P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing mist or vapors. P264 Wash skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. Response: P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P331 Do NOT induce vomiting. P332 + P313 If skin irritation occurs: Get medical advice/ attention. P362 + P364 Take off contaminated clothing and wash it before reuse. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Storage: P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

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Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Kerosine (petroleum); Straight run kerosine	Kerosine (petroleum); Straight run kerosine	8008-20-6	99.9
2-(2-methoxyethoxy)ethanol	2-(2-methoxyethoxy)ethanol	111-77-3	<= 0.15

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.
Causes skin irritation.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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An indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical
Carbon dioxide (CO₂)
Water fog.
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, CO₂), nitrogen oxides (NO_x), sulphur oxides (SO_x), hydrogen sulphide (H₂S), hydrocarbons, 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 fire-fighters : 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.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.

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.
Remove all sources of ignition.

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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 labeled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

- 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

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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

: Tightly fitting safety goggles

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.
Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

: Clear liquid.

Color

: Clear and colourless

Odor

: Kerosene-like.

pH

: No data available

Melting point and freezing point

: -51 °C

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Boiling point, or initial boiling point and boiling range	: 140 - 300 °C
Flash point	: > 38 °C
	Method: Tagliabue
Flammability	: Flammable liquid
Upper explosion limit / Upper flammability limit	: 5 %(V)
Lower explosion limit / Lower flammability limit	: 0.7 %(V)
Vapor pressure	: 5.25 mmHg (20 °C)
Relative vapor density	: 4.5
Relative density	: 0.775 - 0.84 (15 °C)
Density	: No data available
Solubility(ies)	
Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: 210 °C
Decomposition temperature	: No data available
Viscosity	
Viscosity, kinematic	: 1.0 - 1.9 cSt (40 °C)
Particle characteristics	
Particle size	: Not applicable

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 polymerization does not occur.

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Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Reactive with oxidising agents, acids, alkalis, metals and halogenated compounds.
Hazardous decomposition products	: May release CO _x , NO _x , SO _x , 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

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

Product:

Acute inhalation toxicity	: Acute toxicity estimate: > 5 mg/L Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	: Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

Components:

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

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

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

Respiratory or skin sensitization

Skin sensitization

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

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Respiratory sensitization

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

STOT-single exposure

May cause drowsiness or dizziness.

STOT-repeated exposure

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

Aspiration toxicity

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/aquatic plants : Remarks: No data available

Toxicity to microorganisms : 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

JET A/A-1 AVIATION TURBINE FUEL

SDS Number: 000003001081

Version: 5.0

Revision Date: 2024/10/09

Print Date: 2024/10/12

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 labeled 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.
- Contaminated packaging : Do not re-use empty containers.
Contact local or business unit authorities for guidance on disposal of product.

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 : Flammable Liquids
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 : yes

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

Not applicable for product as supplied.

Domestic regulation**TDG**

- UN number : UN 1863
Proper shipping name : FUEL, AVIATION, TURBINE ENGINE
- Class : 3
Packing group : III
Labels : 3

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JET A/A-1 AVIATION TURBINE FUEL

SDS Number: 000003001081

Version: 5.0

Revision Date: 2024/10/09

Print Date: 2024/10/12

ERG Code : 128
Marine pollutant : yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

NPRI Components : 2-(2-methoxyethoxy)ethanol
toluene
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified
naphthalene
propan-2-ol
methanol

The ingredients of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory
TSCA : All substances listed as active on the TSCA inventory
DSL : All components of this product are on the Canadian DSL
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

Canadian lists

The following substance(s) is/are subject to a Significant New Activity Notification:
2-(2-methoxyethoxy)ethanol 111-77-3

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory con-

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centration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 2024/10/09

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CA / EN

SAFETY DATA SHEET



PROPANE

SDS Number: 000003000646

Version: 6.0

Revision Date: 2024/04/04

Print Date: 2024/04/10

SECTION 1. IDENTIFICATION

Product name : PROPANE

Product code : 12021

Other means of identification : Propane HD-5, Propane commercial, Liquefied Petroleum Gas (LPG), C₃H₈, CGSB Propane Grade 1, CGSB Propane Grade 2, odorized propane, stench propane, automotive propane, ER62

Manufacturer or supplier's details

Company name of supplier : SUNCOR ENERGY INC.
Address : P.O. Box 2844, 150 - 6th Avenue South-West
Calgary, Alberta T2P 3E3
Canada, Telephone: 1-866-786-2671

Emergency telephone : 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.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable gases : Category 1

Gases under pressure : Liquefied gas

Simple Asphyxiant : Category 1

GHS label elements

Hazard pictograms :  

Signal Word : Danger

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- Hazard Statements : H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.
- Precautionary Statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Response:**
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.
- Storage:**
P410 + P403 Protect from sunlight. Store in a well-ventilated place.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (%)
propane	propane	74-98-6	72 - 100
propene	propene	115-07-1	<= 23.8
butane	butane	106-97-8	<= 4.7
ethane	ethane	74-84-0	<= 4.6
isobutane	isobutane	75-28-5	<= 3.6
isopentane	isopentane	78-78-4	<= 1
pentane	pentane	109-66-0	<= 0.9
but-1-ene	but-1-ene	106-98-9	<= 0.5
methane	methane	74-82-8	<= 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.

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		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 frostbite. Overexposure may lead to cardiac sensitization. High concentrations can remove oxygen and cause dizziness or suffocation.
Indication of immediate medical attention and special treatment needed, if necessary	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5. FIRE-FIGHTING 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 ₂), 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 fire-fighters	:	Wear self-contained breathing apparatus and full protective wear. Wear a positive-pressure supplied-air respirator with full face-piece.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : For personal protection see section 8.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
In case of inadequate ventilation wear respiratory protection.
Remove all sources of ignition.
Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.
- 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.
Ensure adequate ventilation.
Use explosion-proof ventilation equipment.
Non-sparking tools should be used.
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.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid contact with skin, eyes and clothing.
Avoid breathing gas.
Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Use only with adequate ventilation.
Keep away from heat and sources of ignition.
Keep container closed when not in use.
Do not use sparking tools.
Do not enter areas where used or stored until adequately ventilated.
- 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 labeled containers.
To maintain product quality, do not store in heat or direct sunlight.
Keep away from sources of ignition - No smoking.
Ensure the storage containers are grounded/bonded.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
propane	74-98-6	TWA	1,000 ppm	CA AB OEL
		TWAEV	1,000 ppm 1,800 mg/m ³	CA QC OEL
propene	115-07-1	TWA	500 ppm	CA BC OEL
		TWAEV	500 ppm	CA QC OEL
		TWA	500 ppm	ACGIH
butane	106-97-8	TWA	1,000 ppm	CA AB OEL
		TWA	1,000 ppm	CA BC OEL
		TWAEV	800 ppm 1,900 mg/m ³	CA QC OEL
		STEL	1,000 ppm	ACGIH
ethane	74-84-0	TWA	1,000 ppm	CA AB OEL
isobutane	75-28-5	TWA	1,000 ppm	CA AB OEL
		TWA	1,000 ppm	CA BC OEL
		STEL	1,000 ppm	ACGIH
isopentane	78-78-4	TWAEV	1,000 ppm	CA QC OEL
		TWA	1,000 ppm	CA BC OEL
		TWA	600 ppm	CA AB OEL
		TWA	1,000 ppm	ACGIH

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.

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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 safety glasses with side shields or goggles.
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. Wear suitable protective equipment.
Hygiene measures	: Remove and wash contaminated clothing and gloves, including the inside, before re-use. 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
Color	: colorless
Odor	: Propane is an odourless gas. Odourized propane will contain up to 30 g Ethyl Mercaptan per 1000 L of propane.
Odor Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: -42 °C
Flash point	: -104 °C Method: closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: Extremely flammable gas.
Upper explosion limit / Upper flammability limit	: 9.5 %(V)

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Lower explosion limit / Lower flammability limit	: 2.1 %(V)
Vapor pressure	: 10,763 mmHg (38 °C)
Relative vapor density	: 1.56
Relative density	: No data available
Density	: No data available
Solubility(ies) Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: 450 °C
Decomposition temperature	: 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 polymerization does not occur.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Reactive with oxidising agents and halogenated compounds.
Hazardous decomposition products	: May release COx, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Inhalation
Skin contact

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Print Date: 2024/04/10

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
Exposure time: 4 h
Test atmosphere: gas

isopentane:

- Acute inhalation toxicity : LC50 (Rat): 280 mg/l
Exposure time: 4 h
Test atmosphere: vapor

pentane:

- Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): 364 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Skin corrosion/irritation

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

Serious eye damage/eye irritation

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

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Germ cell mutagenicity

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

Carcinogenicity

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

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Print Date: 2024/04/10

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

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/aquatic plants : Remarks: No data available

Toxicity to microorganisms : 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 labeled prior to recycling or disposal.
Send to a licensed waste management company.
Dispose of as hazardous waste in compliance with local and national regulations.

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Print Date: 2024/04/10

Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

Contaminated packaging : Contact local or business unit authorities for guidance on disposal of product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 1978
Proper shipping name : Propane
Class : 2.1
Packing group : Not assigned by regulation
Labels : Flammable Gas
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

Not applicable for product as supplied.

Domestic regulation

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
Remarks : ERAP 2-0010-058

Special precautions for user

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PROPANE

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SECTION 15. REGULATORY INFORMATION

NPRI Components : propane
propene
butane
isobutane
isopentane
pentane
but-1-ene
n-hexane

The ingredients of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

DSL : All components of this product are on the Canadian DSL

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

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)

CA BC OEL : Canada. British Columbia OEL

CA QC OEL : Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

ACGIH / TWA : 8-hour, time-weighted average

ACGIH / STEL : Short-term exposure limit

CA AB OEL / TWA : 8-hour time weighted average

CA AB OEL / TWA : 8-hour Occupational exposure limit

CA BC OEL / TWA : 8-hour time weighted average

CA QC OEL / TWA EV : Time-weighted average exposure value

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Revision Date : 2024/04/04

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FICHE DE DONNÉES DE SÉCURITÉ



PROPANE

Numéro de la FDS: 000003000646

Version: 6.0

Date de révision: 2024/04/04

Date d'impression: 2024/04/22

SECTION 1. IDENTIFICATION

Nom du produit : PROPANE

Code du produit : 12021

Autres moyens d'identification : Propane HD-5, Propane commercial, gaz de pétrole liquéfié (GPL), C₃H₈, Propane de grade 1 approuvé par l'ONGC, Propane de grade 2 ap approuvé par l'ONGC, propane odorant, propane malodorant, propane pour les automobiles, ER62.

Détails concernant le fabricant ou le fournisseur

Nom du fournisseur : SUNCOR ÉNERGIE INC.
Adresse : C.P. Box 2844, 150 - 6th Avenue South-West
Calgary, Alberta T2P 3E3
Canada, Téléphone: 1-866-786-2671

Numéro d'appel d'urgence : CHEMTREC: 1-800-424-9300 (sans frais) ou +1 703-527-3887;
Suncor Energy: +1 403-296-3000

Utilisation recommandée du produit et restrictions d'utilisation

Utilisation recommandée : Le propane est utilisé comme gaz combustible, réfrigérant et gaz de laboratoire. En tant que matière première, il entre dans la composition de synthèses organiques. La qualité indique la teneur en propane. Le propane est fourni sous forme de liquide pressurisé dans des citernes.

SECTION 2. IDENTIFICATION DES DANGERS

Classement SGH en conformité avec les règlements sur les produits dangereux

Gaz inflammables : Catégorie 1

Gaz sous pression : Gaz liquéfié

Asphyxiant Simple : Catégorie 1

Éléments d'étiquetage SGH

FICHE DE DONNÉES DE SÉCURITÉ



PROPANE

Numéro de la FDS: 000003000646

Version: 6.0

Date de révision: 2024/04/04

Date d'impression: 2024/04/22

Pictogrammes de danger :



Mention d'avertissement : Danger

Mentions de danger : H220 Gaz extrêmement inflammable.
H280 Contient un gaz sous pression; peut exploser sous l'effet de la chaleur.
Peut remplacer l'oxygène et causer une suffocation rapide.

Conseils de prudence : **Prévention:**
P210 Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer.
Intervention:
P377 Fuite de gaz enflammé: Ne pas éteindre si la fuite ne peut pas être arrêtée sans danger.
P381 En cas de fuite, éliminer toutes les sources d'ignition.
Stockage:
P410 + P403 Protéger du rayonnement solaire. Stocker dans un endroit bien ventilé.

Autres dangers

Aucun(e) à notre connaissance.

SECTION 3. COMPOSITION/ INFORMATIONS SUR LES COMPOSANTS

Substance/mélange : Mélange

Composants

Nom Chimique	Nom commun/Synonyme	No.-CAS	Concentration (%)
propane	propane	74-98-6	72 - 100
propène	propène	115-07-1	<= 23.8
butane	butane	106-97-8	<= 4.7
éthane	éthane	74-84-0	<= 4.6
isobutane	isobutane	75-28-5	<= 3.6
isopentane	isopentane	78-78-4	<= 1
pentane	pentane	109-66-0	<= 0.9
but-1-ène	but-1-ène	106-98-9	<= 0.5
méthane	méthane	74-82-8	<= 0.2

Toutes les concentrations ci-dessus sont en pourcentage par volume.

SECTION 4. PREMIERS SECOURS

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En cas d'inhalation	: Amener la victime à l'air libre. Respiration artificielle et/ou oxygène peuvent être nécessaires. Demander conseil à un médecin.
En cas de contact avec la peau	: En cas de contact, rincer immédiatement avec beaucoup d'eau pendant au moins 15 minutes en retirant les vêtements et chaussures contaminés. Laver la peau à fond avec de l'eau et du savon ou utiliser un produit reconnu pour le nettoyage de la peau. Laver les vêtements contaminés avant de les réutiliser. Demander conseil à un médecin.
En cas de contact avec les yeux	: Enlever les lentilles de contact. Rincer immédiatement et abondamment à l'eau, y compris sous les paupières, pendant au moins 15 minutes. Appeler un médecin.
En cas d'ingestion	: Ne présente pas une voie d'exposition significative.
Principaux symptômes et effets, aigus et différés	: L'inhalation peut affecter le système nerveux central. L'inhalation des vapeurs peut causer de la somnolence, des maux de tête, des étourdissements et de la confusion. Peut irriter le système respiratoire. Un contact avec le gaz en expansion rapide peut provoquer des brûlures ou des gelures. La surexposition peut entraîner une sensibilisation cardiaque. Des concentrations élevées peuvent déplacer l'oxygène et provoquer des vertiges ou la suffocation.
Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires	: Traitement symptomatique requis. Contactez le spécialiste en traitement de poison immédiatement si de grandes quantités ont été ingérées ou inhalées.

SECTION 5. MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction appropriés	: Utiliser des moyens d'extinction appropriés aux conditions locales et à l'environnement proche.
Moyens d'extinction inappropriés	: Pas d'information disponible.
Dangers spécifiques pendant la lutte contre l'incendie	: Si la fuite de produit ne peut pas être coupée sans risque, laisser le produit se consumer. Refroidir par pulvérisation d'eau les récipients fermés se trouvant à proximité de la source d'incendie.
Produits de combustion dangereux	: Oxydes de carbone (CO, CO ₂), fumée et vapeurs irritantes comme produits d'une combustion incomplète.

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- Information supplémentaire : Empêcher les eaux d'extinction du feu de contaminer les eaux de surface ou le réseau d'alimentation souterrain.
- Équipements de protection particuliers des pompiers : Porter un appareil respiratoire autonome et un équipement de protection complet.
Utiliser un respirateur à air comprimé équipé d'un masque intégral.

SECTION 6. MESURES À PRENDRE EN CAS DE DISPERSION ACCIDENTELLE

- Précautions individuelles, équipement de protection et procédures d'urgence : Pour l'équipement de protection individuel, voir rubrique 8.
Assurer une ventilation adéquate.
Évacuer le personnel vers des endroits sûrs.
Lorsque la ventilation du local est insuffisante porter un équipement de protection respiratoire.
Enlever toute source d'ignition.
Faire attention à l'étalement du gaz au sol (plus lourd que l'air) et à la direction du vent.
Marquer la zone contaminée avec des panneaux et en interdire l'accès à toute personne non autorisée.
Seul le personnel qualifié équipé d'un équipement individuel de protection adapté peut intervenir.
- Précautions pour la protection de l'environnement : En cas de pollution de cours d'eau, lacs ou égouts, informer les autorités compétentes conformément aux dispositions locales.
- Méthodes et matériel de confinement et de nettoyage : Éviter tout déversement ou fuite supplémentaire, si cela est possible en toute sécurité.
Assurer une ventilation adéquate.
Utiliser un équipement de ventilation antidéflagrant.
Utiliser des outils ne provoquant pas d'étincelles.
Contacter les autorités locales compétentes.

SECTION 7. MANIPULATION ET STOCKAGE

- Conseils pour une manipulation sans danger : Pour l'équipement de protection individuel, voir rubrique 8.
Ne pas manger, fumer ou boire dans la zone de travail.
En cas de ventilation insuffisante, porter un appareil respiratoire approprié.
Éviter le contact avec la peau, les yeux et les vêtements.
Éviter de respirer les gaz.
Éviter les sources d'ignition. Fixer et mettre à la terre les réservoirs et l'équipement. Ces mesures peuvent toutefois être insuffisantes pour décharger l'électricité statique.
N'utiliser qu'avec une ventilation adéquate.
Tenir à l'écart de la chaleur et des sources d'ignition.
Conserver le conteneur fermé lorsqu'il n'est pas utilisé.
Ne pas utiliser des outils qui peuvent provoquer des étincelles.

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Ne pas pénétrer dans les zones où l'on utilise ou stocke [cette matière] sans une ventilation adéquate.

Conditions de stockage : Conserver dans le conteneur d'origine.
sures : Refermer soigneusement tout récipient entamé et le stocker verticalement afin d'éviter tout écoulement.
Conserver dans un endroit sec, frais et bien ventilé.
Conserver dans des conteneurs proprement étiquetés.
Pour conserver la qualité du produit, ne pas stocker à la chaleur ni au soleil.
Conserver à l'écart de toute flamme ou source d'étincelles - Ne pas fumer.
Assurer que les contenants entreposés sont mis à la terre ou mis à la masse.

SECTION 8. CONTRÔLES DE L'EXPOSITION/ PROTECTION INDIVIDUELLE

Composants avec valeurs limites d'exposition professionnelle

Composants	No.-CAS	Type de valeur (Type d'exposition)	Paramètres de contrôle / Concentration admissible	Base
propane	74-98-6	TWA	1,000 ppm	CA AB OEL
		VEMP	1,000 ppm 1,800 mg/m3	CA QC OEL
propène	115-07-1	TWA	500 ppm	CA BC OEL
		VEMP	500 ppm	CA QC OEL
		TWA	500 ppm	ACGIH
butane	106-97-8	TWA	1,000 ppm	CA AB OEL
		TWA	1,000 ppm	CA BC OEL
		VEMP	800 ppm 1,900 mg/m3	CA QC OEL
		STEL	1,000 ppm	ACGIH
éthane	74-84-0	TWA	1,000 ppm	CA AB OEL
isobutane	75-28-5	TWA	1,000 ppm	CA AB OEL
		TWA	1,000 ppm	CA BC OEL
		STEL	1,000 ppm	ACGIH
isopentane	78-78-4	VEMP	1,000 ppm	CA QC OEL
		TWA	1,000 ppm	CA BC OEL
		TWA	600 ppm	CA AB OEL
		TWA	1,000 ppm	ACGIH

Mesures d'ordre technique : Assurer une ventilation adéquate pour faire en sorte que la limite d'exposition en milieu de travail ne soit pas dépassée.
Utiliser seulement dans des zones bien ventilées.
Utiliser un équipement de ventilation antidéflagrant.

Équipement de protection individuelle

Protection respiratoire : Le choix du respirateur doit être fondé en fonction des ni-

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veaux d'expositions prévus ou connus, du danger que représente le produit et des limites d'utilisation sécuritaire du respirateur retenu.

Filtre de type : Toujours porter un appareil de protection respiratoire autonome approuvé par le NIOSH pour la manipulation de cette substance.

Protection des mains
Matériel : Porter des gants doublés afin de prévenir les engelures. Informez-vous auprès de votre fournisseur d'équipement de protection individuelle pour connaître le temps de protection offert et le type de gants le mieux adapté à vos besoins. Il est à noter que peu importe leur degré d'imperméabilité, tout type de matériel va éventuellement devenir perméable aux produits chimiques. Il est donc important de vérifier régulièrement l'état de ses gants de protection. Aux premiers signes de durcissement ou de fissure du matériel, ils devraient être changés.

Remarques : Lors de la manipulation de produits chimiques, porter en permanence des gants étanches et résistants aux produits chimiques conformes à une norme approuvée, si une évaluation du risque indique que cela est nécessaire.

Protection des yeux : Portez des lunettes de sécurité avec écrans latéraux ou des lunettes.

Protection de la peau et du corps : Choisir une protection corporelle en relation avec le type, la concentration et les quantités de substances dangereuses, et les spécificités du poste de travail.

Mesures de protection : Laver les vêtements contaminés avant de les remettre. Porter un équipement de protection adéquat.

Mesures d'hygiène : Enlever et laver les gants, y compris l'intérieur, et les vêtements contaminés avant la réutilisation. Se laver le visage, les mains et toute partie de la peau exposée soigneusement après manipulation.

SECTION 9. PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Aspect : Gaz à température ambiante; liquide lorsque entreposé sous pression, gaz comprimé liquéfié

Couleur : incolore

Odeur : Propane est un gaz inodore. Le propane odorant peut contenir

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jusqu'à 30 g d'éthyl mercaptan par 1000 L de propane.

Seuil olfactif : Donnée non disponible

pH : Donnée non disponible

Point de fusion/point de congélation : Donnée non disponible

Point initial d'ébullition et intervalle d'ébullition : -42 °C

Point d'éclair : -104 °C

Méthode: coupelle fermée

Taux d'évaporation : Donnée non disponible

Inflammabilité (solide, gaz) : Gaz extrêmement inflammable.

Limite d'explosivité, supérieure / Limite d'inflammabilité supérieure : 9.5 % (v)

Limite d'explosivité, inférieure / Limite d'inflammabilité inférieure : 2.1 % (v)

Pression de vapeur : 10,763 mmHg (38 °C)

Densité de vapeur relative : 1.56

Densité relative : Donnée non disponible

Densité : Donnée non disponible

Solubilité(s)

Hydrosolubilité : Donnée non disponible

Coefficient de partage: n-octanol/eau : Donnée non disponible

Température d'auto-inflammation : 450 °C

Température de décomposition : Donnée non disponible

Viscosité

Viscosité, cinématique : Donnée non disponible

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SECTION 10. STABILITÉ ET RÉACTIVITÉ

Réactivité	:	Pas de réactions dangereuses connues dans les conditions normales d'utilisation.
Stabilité chimique	:	Stable dans des conditions normales.
Possibilité de réactions dangereuses	:	Une polymérisation dangereuse ne se produit pas.
Conditions à éviter	:	Chaleur, flammes et étincelles.
Matières incompatibles	:	Réactif avec agents oxydants et composés halogénés.
Produits de décomposition dangereux	:	Susceptible de dégager des COx, fumées et vapeurs irritantes, en présence de chaleur jusqu'à décomposition.

SECTION 11. INFORMATIONS TOXICOLOGIQUES

Informations sur les voies d'exposition probables

Contact avec les yeux

Inhalation

Contact avec la peau

Toxicité aiguë

Produit:

Toxicité aiguë par voie orale : Remarques: Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Toxicité aiguë par inhalation : Remarques: Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Toxicité aiguë par voie cutanée : Remarques: Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Composants:

butane:

Toxicité aiguë par inhalation : CL50 (Rat): 658 mg/L
Durée d'exposition: 4 H
Atmosphère de test: gaz

isopentane:

Toxicité aiguë par inhalation : CL50 (Rat): 280 mg/L
Durée d'exposition: 4 H
Atmosphère de test: vapeur

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pentane:

Toxicité aiguë par voie orale : DL50 (Rat): > 2,000 mg/kg

Toxicité aiguë par inhalation : CL50 (Rat): 364 mg/L
Durée d'exposition: 4 H
Atmosphère de test: vapeur

Corrosion cutanée/irritation cutanée

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Lésions oculaires graves/irritation oculaire

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Sensibilisation respiratoire ou cutanée

Sensibilisation cutanée

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Sensibilisation respiratoire

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Mutagenicité sur les cellules germinales

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Cancérogénicité

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Toxicité pour la reproduction

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Toxicité spécifique pour certains organes cibles - exposition unique

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

Toxicité spécifique pour certains organes cibles - exposition répétée

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

SECTION 12. INFORMATIONS ÉCOLOGIQUES

Écotoxicité

Produit:

Toxicité pour les poissons : Remarques: Donnée non disponible

Toxicité pour la daphnie et les autres invertébrés aquatiques : Remarques: Donnée non disponible

Toxicité pour les algues/plantes aquatiques : Remarques: Donnée non disponible

Toxicité pour les microorganismes : Remarques: Donnée non disponible

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Persistance et dégradabilité

Produit:

Biodégradabilité : Remarques: Donnée non disponible

Potentiel de bioaccumulation

Donnée non disponible

Mobilité dans le sol

Donnée non disponible

Autres effets néfastes

Donnée non disponible

SECTION 13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes d'élimination

Déchets de résidus : Empêcher le produit de pénétrer dans les égouts, les cours d'eau ou le sol.
Remettre les excédents et les solutions non recyclables à une entreprise d'élimination des déchets agréée.
Les déchets doivent être classés et étiquetés avant leur recyclage ou leur élimination.
Envoyer à une entreprise autorisée à gérer les déchets.
Éliminer les déchets dangereux en conformité avec les réglementations locales et nationales.
Éliminer les résidus du produit conformément aux instructions de la personne responsable de l'élimination des déchets.

Emballages contaminés : Communiquer avec les autorités locales ou l'unité commerciale pour connaître les instructions d'élimination du produit.

SECTION 14. INFORMATIONS RELATIVES AU TRANSPORT

Réglementations internationales

IATA-DGR

UN/ID No. : UN 1978
Nom d'expédition des Nations unies : Propane
Classe : 2.1
Groupe d'emballage : Non réglementé
Étiquettes : Flammable Gas
Instructions de conditionnement (avion cargo) : 200

Code IMDG

Numéro ONU : UN 1978
Nom d'expédition des Nations unies : PROPANE

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tions unies
Classe : 2.1
Groupe d'emballage : Non réglementé
Étiquettes : 2.1
EmS Code : F-D, S-U
Polluant marin : non

Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC

Non applicable pour le produit tel qu'il est fourni.

Réglementation nationale

TDG

Numéro ONU : UN 1978
Nom d'expédition des Nations unies : PROPANE
Classe : 2.1
Groupe d'emballage : Non réglementé
Étiquettes : 2.1
Code ERG : 115
Polluant marin : non
Remarques : ERAP 2-0010-058

Précautions particulières à prendre par l'utilisateur

La(Le)s classification(s) de transport fournie(s) ici servent uniquement à des fins d'information et est(sont) basé(e)s sur les propriétés des matières non emballées, tel que décrit dans la fiche des caractéristiques de sécurité. Les classifications de transport peuvent varier selon le mode de transport, les tailles des emballages et les variations dans les réglementations régionales ou nationales.

SECTION 15. INFORMATIONS RELATIVES À LA RÉGLEMENTATION

NPRI Composants : propane
propène
butane
isobutane
isopentane
pentane
but-1-ène
n-hexane

Les composants de ce produit figurent dans les inventaires suivants:

TCSI : Listé ou en conformité avec l'inventaire
TSCA : Toutes les substances sont notifiées actives sur l'inventaire de la loi sur le contrôle des substances toxiques (TSCA)
DSL : Tous les composants de ce produit sont sur la liste canadienne LIS
ENCS : Listé ou en conformité avec l'inventaire

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ISHL	: Listé ou en conformité avec l'inventaire
KECI	: Listé ou en conformité avec l'inventaire
PICCS	: Listé ou en conformité avec l'inventaire
IECSC	: Listé ou en conformité avec l'inventaire

Listes canadiennes

Aucune substance n'est soumise à une déclaration de nouvelle activité significative.

SECTION 16. AUTRES INFORMATIONS

Texte complet pour autres abréviations

ACGIH	: USA. ACGIH ACGIH, valeurs limites d'exposition (TLV)
CA AB OEL	: Canada. Alberta, Code de santé et de sécurité au travail (tableau 2 : VLE)
CA BC OEL	: Canada. LEP Colombie Britannique
CA QC OEL	: Québec. Règlement sur la santé et la sécurité du travail, Annexe 1 Partie 1: Valeurs d'exposition admissibles des contaminants de l'air
ACGIH / TWA	: 8 heures, moyenne pondérée dans le temps
ACGIH / STEL	: Limite d'exposition à court terme
CA AB OEL / TWA	: Moyenne pondérée dans le temps de 8 h
CA AB OEL / TWA	: Limite d'exposition professionnelle de 8 heures
CA BC OEL / TWA	: Moyenne pondérée dans le temps de 8 h
CA QC OEL / VEMP	: Valeur d'exposition moyenne pondérée

AIIC - Inventaire australien des produits chimiques industriels; ANTT - Agence nationale pour le transport par terre du Brésil; ASTM - Société américaine pour les essais de matériaux; bw - Poids corporel; CMR - Cancérogène, mutagène ou toxique pour la reproduction; DIN - Norme de l'Institut allemand de normalisation; DSL - Liste nationale des substances (Canada); ECx - Concentration associée à x % de réponse; ELx - Taux de charge associée à x % de réponse; EmS - Horaire d'urgence; ENCS - Substances chimiques existantes et substances nouvelles (Japon); ErCx - Concentration associée à une réponse de taux de croissance de x %; ERG - Guide d'intervention d'urgence; GHS - Système général harmonisé; GLP - Bonnes pratiques de laboratoire; IARC - Centre international de recherche sur le cancer; IATA - Association du transport aérien international; IBC - Code international pour la construction et l'équipement des navires transportant des produits chimiques dangereux en vrac; IC50 - Concentration inhibitrice demi maximale; ICAO - Organisation de l'aviation civile internationale; IECSC - Inventaire des substances chimiques existantes en Chine; IMDG - Marchandises dangereuses pour le transport maritime international; IMO - Organisation maritime internationale; ISHL - Sécurité industrielle et le droit de la santé (Japon); ISO - Organisation internationale de normalisation; KECI - Inventaire des produits chimiques coréens existants; LC50 - Concentration létale pour 50 % d'une population test; LD50 - Dose létale pour 50 % d'une population test (dose létale moyenne); MARPOL - Convention internationale pour la prévention de la pollution par les navires; n.o.s. - Non spécifié; Nch - Norme chilienne; NO(A)EC - Effet de concentration non observé (négatif); NO(A)EL - Effet non observé

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(nocif); NOELR - Taux de charge sans effet observé; NOM - Norme Officielle mexicaine; NTP - Programme de toxicologie national; NZIoC - Inventaire des produits chimiques en Nouvelle-Zélande; OECD - Organisation pour la coopération économique et le développement; OPPTS - Bureau de la sécurité chimique et prévention de la pollution; PBT - Persistant, bio-accumulable et toxique; PICCS - Inventaire des produits et substances chimiques aux Philippines; (Q)SAR - Relations structure-activité (quantitative); REACH - Règlement (CE) n° 1907/2006 du Parlement européen et du Conseil concernant l'enregistrement, l'évaluation, l'autorisation et la restriction des produits chimiques; SADT - Température de décomposition auto-accélérée; SDS - Fiche de Données de Sécurité; TCSI - Inventaire des substances chimiques à Taiwan; TDG - Transport des marchandises dangereuses; TECL - Répertoire des produits chimiques existants en Thaïlande; TSCA - Loi sur le contrôle des substances toxiques (États-Unis); UN - Les Nations Unies; UNRTDG - Recommandations des Nations Unies relatives au transport des marchandises dangereuses; vPvB - Très persistant et très bioaccumulable; WHMIS - Système d'information sur les matières dangereuses utilisées au travail

Date de révision : 2024/04/04

Les informations contenues dans la présente fiche de sécurité ont été établies sur la base de nos connaissances à la date de publication de ce document. Ces informations ne sont données qu'à titre indicatif en vue de permettre des opérations de manipulation, fabrication, stockage, transport, distribution, mise à disposition, utilisation et élimination dans des conditions satisfaisantes de sécurité, et ne sauraient donc être interprétées comme une garantie ou considérées comme des spécifications de qualité. Ces informations ne concernent en outre que le produit nommé désigné et, sauf indication contraire spécifique, peuvent ne pas être applicables en cas de mélange dudit produit avec d'autres substances ou utilisables pour tout procédé de fabrication.

CA / FR

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER:	BIOBEAR ROD GREASE
OTHER MEANS OF IDENTIFICATION:	None
RECOMMENDED USE:	Anti-seize compound
RESTRICTIONS ON USE:	None
SUPPLIER IDENTIFIER:	Di-Corp 8750-53 Ave Edmonton, AB T6E 5G2 780-440-4923
EMERGENCY PHONE NUMBER:	780-468-4064

SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION:	Not classified according to Part 2 of HPR.
LABEL SYMBOLS:	Not applicable
SIGNAL WORD:	Not applicable
HAZARD STATEMENTS:	Not applicable
OTHER HAZARDS:	Spills create extremely slippery surfaces.
PRECAUTIONARY STATEMENTS:	Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
	Contains no hazardous ingredients.	

SECTION 4: FIRST AID MEASURES

SKIN CONTACT:	Remove contaminated clothing and wash exposed skin thoroughly with soap and water. If irritation develops and persists obtain medical attention.
EYE CONTACT:	Immediately flush with gently flowing warm water for 15 minutes or until irritation ceases. If irritation persists, obtain medical attention.
INGESTION:	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Obtain medical attention if symptoms develop or large quantity is swallowed. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing.
INHALATION:	Move to fresh air. Apply oxygen or artificial respiration if required. If breathing difficulties or distress continues obtain immediate medical attention.
MOST IMPORTANT SYMPTOMS / EFFECTS:	No known acute or chronic effects.
IMMEDIATE MEDICAL ATTENTION / SPECIAL TREATMENT:	Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Carbon dioxide, dry chemical, water spray or foam.
UNSUITABLE EXTINGUISHING MEDIA:	None known.
SPECIFIC FIRE HAZARDS:	While not considered flammable this product may be combustible under fire conditions.
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of carbon.
SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS:	Self-contained breathing apparatus required for fire-fighting personnel. Cool containers with water spray or move from fire area if possible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use appropriate safety equipment. Prevent further leakage or spillage if safe to do so. Spills produce extremely slippery surfaces. Keep people away. Do not flush with water.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Scoop up spilled material or soak up with absorbent material (eg sawdust). Collect uncontaminated material for repackaging. Collect contaminated material and absorbent in approved containers for disposal. Wash spill area thoroughly until non-slippery.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Avoid skin and eye contact. Wash thoroughly after handling. Launder contaminated clothing before reuse. Keep containers closed when not in use.

CONDITIONS FOR SAFE STORAGE & INCOMPATIBILITIES

Store in a cool, dry area away from oxidizers. Keep away from heat and sources of ignition.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:	Not available.
ENGINEERING CONTROLS:	Not required under normal conditions of use.
PERSONAL PROTECTIVE MEASURES	
RESPIRATORY PROTECTION:	Not required under normal conditions of use.
PROTECTIVE GLOVES:	Rubber gloves recommended.
EYE PROTECTION:	Safety glasses with side-shields or chemical goggles.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Ensure eye-wash station and emergency shower are available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Light beige paste
ODOUR:	Characteristic
ODOUR THRESHOLD:	Not available
pH:	Not available
MELTING POINT / FREEZING POINT:	Not available

BOILING POINT / RANGE:	450°C
FLASH POINT:	300°C
EVAPORATION RATE:	Not available
FLAMMABILITY:	Not available
FLAMMABILITY / EXPLOSIVE LIMITS:	Not available
VAPOUR PRESSURE:	1.3 hPa @ 20°C
VAPOUR DENSITY:	Not available
RELATIVE DENSITY:	1.02314 g/cm ³ @ 20°C
SOLUBILITY:	Insoluble in water.
PARTITION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not available
DECOMPOSITION TEMPERATURE:	Not available
VISCOSITY:	Not available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	Not reactive under normal conditions of storage or use.
CHEMICAL STABILITY:	Stable under normal conditions of storage or use.
POSSIBILITY OF HAZARDOUS REACTIONS:	Polymerization will not occur
CONDITIONS TO AVOID:	Elevated temperatures or fire conditions.
INCOMPATIBLE MATERIALS:	Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:	Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY:	ATE (Acute Toxicity Estimate) Oral LD50 > 12,399 mg/kg (rat) Dermal LD50 > 44,543 mg/kg (rat)
SKIN CONTACT:	No effects expected.
EYE CONTACT:	May cause slight irritation.
INGESTION:	No effects expected from swallowing small amounts.
INHALATION:	No effects expected under normal conditions of use.
CARCINOGENICITY:	No information available.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
CHRONIC TOXICITY:	No information available.
TARGET ORGAN EFFECTS:	No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	No information available.
PERSISTENCE AND DEGRADABILITY:	No information available.
BIOACCUMULATIVE POTENTIAL:	No information available.
MOBILITY IN SOIL:	No information available.
OTHER ADVERSE EFFECTS:	No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose/incinerate in accordance with federal, state and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. This product may be suitable for disposal by land fill; check with local operator.

SECTION 14: TRANSPORTATION INFORMATION

TDG:	Not regulated
DOT:	Not regulated
IATA:	Not regulated
IMDG:	Not regulated
UN NUMBER:	Not applicable
PROPER SHIPPING NAME:	Not applicable
CLASS:	Not applicable
PACKING GROUP:	Not applicable
IMDG HAZARDS:	Not applicable
BULK TRANSPORT:	Not applicable
SPECIAL PRECAUTIONS:	Not applicable

SECTION 15: REGULATORY INFORMATION

DSL:	All ingredients are listed on the DSL.
WHMIS CLASS:	Not controlled
TSCA:	All ingredients are listed or exempt from listing.

SECTION 16: OTHER INFORMATION

REVISION DATE:	April 23, 2024
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The information contained herein is given in good faith, but no warranty, expressed or implied, is made.

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER:	DR-133 POLYMER
OTHER MEANS OF IDENTIFICATION:	None
RECOMMENDED USE:	Drilling fluid additive
RESTRICTIONS ON USE:	None
SUPPLIER IDENTIFIER:	Di-Corp 8750-53 Ave Edmonton, AB T6E 5G2 780-440-4923
EMERGENCY PHONE NUMBER (24 hr):	780-468-4064

SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION:	Not classified according to Part 2 of HPR.
LABEL SYMBOLS:	Not applicable
SIGNAL WORD:	Not applicable
HAZARD STATEMENTS:	Not applicable
OTHER HAZARDS:	Spills create extremely slippery surfaces.
PRECAUTIONARY STATEMENTS:	Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
	Contains no hazardous ingredients.	

SECTION 4: FIRST AID MEASURES

SKIN CONTACT:	Remove contaminated clothing and wash exposed skin thoroughly with soap and water. If irritation develops and persists obtain medical attention.
EYE CONTACT:	Immediately flush with gently flowing warm water for minimum 15 minutes. If irritation persists, obtain medical attention.
INGESTION:	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Obtain medical attention if symptoms develop or large quantity is swallowed. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing.
INHALATION:	Move to fresh air. Apply oxygen or artificial respiration if required. If breathing difficulties or distress continues obtain immediate medical attention.
MOST IMPORTANT SYMPTOMS / EFFECTS:	No known acute or chronic effects.
IMMEDIATE MEDICAL ATTENTION /	Treat symptomatically.
SPECIAL TREATMENT:	

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Carbon dioxide, dry chemical, water spray or foam.
UNSUITABLE EXTINGUISHING MEDIA:	None known.
SPECIFIC FIRE HAZARDS:	While not considered flammable this product may be combustible under fire conditions.
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of nitrogen.
SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS:	Self-contained breathing apparatus required for fire-fighting personnel. Cool containers with water spray or move from fire area if possible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use appropriate safety equipment. Prevent further leakage or spillage if safe to do so. Spills produce extremely slippery surfaces. Keep people away. Do not flush with water. Do not allow to enter sewer or public waterways.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Collect spilled material by vacuum if possible. Soak up remainder with absorbent material. Collect uncontaminated material for repackaging. Collect contaminated material and absorbent in approved containers for disposal. Wash spill area with thoroughly until non-slippery.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Avoid skin and eye contact. Wash thoroughly after handling. Launder contaminated clothing before reuse. Keep containers closed when not in use.

CONDITIONS FOR SAFE STORAGE & INCOMPATIBILITIES

Store in a cool, dry area away from oxidizers. Keep away from heat and sources of ignition. Slippery when wet.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:	Not available.
ENGINEERING CONTROLS:	Use local exhaust ventilation, process enclosure or other engineering controls as required to maintain vapour/mist concentration below TLV's.
PERSONAL PROTECTIVE MEASURES	
RESPIRATORY PROTECTION:	Not required under normal conditions of use.
PROTECTIVE GLOVES:	Rubber gloves recommended.
EYE PROTECTION:	Safety glasses with side-shields or chemical goggles.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Ensure eye-wash station and emergency shower are available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Milky white, viscous liquid
ODOUR:	Odourless
ODOUR THRESHOLD:	Not available
pH:	6.5 – 7.5 (0.5% solution)

MELTING POINT / FREEZING POINT:	Not available
BOILING POINT / RANGE:	Not available
FLASH POINT:	>100°C
EVAPORATION RATE:	Not available
FLAMMABILITY:	Not available
FLAMMABILITY / EXPLOSIVE LIMITS:	Not available
VAPOUR PRESSURE:	Not available
VAPOUR DENSITY:	Not available
RELATIVE DENSITY:	1.0 – 1.1
SOLUBILITY:	Not available
PARTITION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not available
DECOMPOSITION TEMPERATURE:	Not available
VISCOSITY:	Not available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	Not reactive under normal conditions of storage or use.
CHEMICAL STABILITY:	Stable under normal conditions of storage or use.
POSSIBILITY OF HAZARDOUS REACTIONS:	Polymerization will not occur
CONDITIONS TO AVOID:	Elevated temperatures or fire conditions.
INCOMPATIBLE MATERIALS:	Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:	Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY:	No product or ingredient information available.
SKIN CONTACT:	Prolonged or repeated contact may cause mild irritation.
EYE CONTACT:	May cause slight irritation.
INGESTION:	No effects expected from swallowing small amounts.
INHALATION:	No effects expected under normal conditions of use.
CARCINOGENICITY:	No information available.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
CHRONIC TOXICITY:	No information available.
TARGET ORGAN EFFECTS:	No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	No product or ingredient information available.
PERSISTENCE AND DEGRADABILITY:	Readily degradable.
BIOACCUMULATIVE POTENTIAL:	Not expected to bioaccumulate.
MOBILITY IN SOIL:	Not available.
OTHER ADVERSE EFFECTS:	Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose/incinerate in accordance with local, provincial and federal regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal.

SECTION 14: TRANSPORTATION INFORMATION

TDG:	Not regulated
DOT:	Not regulated
IATA:	Not regulated
IMDG:	Not regulated
UN NUMBER:	Not applicable
PROPER SHIPPING NAME:	Not applicable
CLASS:	Not applicable
PACKING GROUP:	Not applicable
IMDG HAZARDS:	Not applicable
BULK TRANSPORT:	Not applicable
SPECIAL PRECAUTIONS:	Not applicable

SECTION 15: REGULATORY INFORMATION

DSL:	All ingredients are listed on the DSL.
WHMIS CLASS:	Not controlled
TSCA:	All ingredients are listed or exempt from listing.

SECTION 16: OTHER INFORMATION

REVISION DATE:	June 7, 2018
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The information contained herein is given in good faith, but no warranty, expressed or implied, is made.

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER:	LINSEED SOAP
OTHER MEANS OF IDENTIFICATION:	None
RECOMMENDED USE:	Drilling fluid additive
RESTRICTIONS ON USE:	None
SUPPLIER IDENTIFIER:	Di-Corp 8750-53 Ave Edmonton, AB T6E 5G2 780-440-4923
EMERGENCY PHONE NUMBER:	780-468-4064

SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION:	Not classified according to Part 2 of HPR.
LABEL SYMBOLS:	Not applicable
SIGNAL WORD:	Not applicable
HAZARD STATEMENTS:	Not applicable
OTHER HAZARDS:	Spills create extremely slippery surfaces.
PRECAUTIONARY STATEMENTS:	Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
	Contains no hazardous ingredients.	

SECTION 4: FIRST AID MEASURES

SKIN CONTACT:	Remove contaminated clothing and wash exposed skin thoroughly with soap and water. If irritation develops and persists obtain medical attention.
EYE CONTACT:	Immediately flush with gently flowing warm water for minimum 15 minutes. If irritation persists, obtain medical attention.
INGESTION:	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Obtain medical attention if symptoms develop or large quantity is swallowed. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing.
INHALATION:	Move to fresh air. Apply oxygen or artificial respiration if required. Obtain immediate medical attention.
MOST IMPORTANT SYMPTOMS / EFFECTS:	No known acute or chronic effects.
IMMEDIATE MEDICAL ATTENTION / SPECIAL TREATMENT:	Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Carbon dioxide, dry chemical, water spray or foam.
UNSUITABLE EXTINGUISHING MEDIA:	None known.
SPECIFIC FIRE HAZARDS:	While not considered flammable this product may be combustible under fire conditions.
HAZARDOUS COMBUSTION PRODUCTS:	Not available.
SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS:	Self-contained breathing apparatus required for fire-fighting personnel. Cool containers with water spray or move from fire area if possible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use appropriate safety equipment. Prevent further leakage or spillage if safe to do so. Spills produce extremely slippery surfaces. Keep people away. Do not flush with water.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Collect spilled material by vacuum if possible. Soak up remainder with absorbent material. Collect uncontaminated material for repackaging. Collect contaminated material and absorbent in approved containers for disposal. Wash spill area with thoroughly until non-slippery.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Avoid skin and eye contact. Wash thoroughly after handling. Launder contaminated clothing before reuse. Keep containers closed when not in use.

CONDITIONS FOR SAFE STORAGE & INCOMPATIBILITIES

Store in a cool, dry area away from oxidizers. Keep away from heat and sources of ignition. Slippery when wet.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:	Not available.
ENGINEERING CONTROLS:	Use local exhaust ventilation, process enclosure or other engineering controls as required to maintain vapour/mist concentration below TLV's.
PERSONAL PROTECTIVE MEASURES	
RESPIRATORY PROTECTION:	Not required under normal conditions of use.
PROTECTIVE GLOVES:	Rubber gloves recommended.
EYE PROTECTION:	Safety glasses with side-shields or chemical goggles.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Ensure eye-wash station and emergency shower are available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Yellow liquid
ODOUR:	Mild soapy odour
ODOUR THRESHOLD:	Not applicable
pH:	9.5 – 11.5

MELTING POINT / FREEZING POINT:	-1°C
BOILING POINT / RANGE:	100°C
FLASH POINT:	Not available
EVAPORATION RATE:	Not available
FLAMMABILITY:	Not available
FLAMMABILITY / EXPLOSIVE LIMITS:	Not available
VAPOUR PRESSURE:	Not available
VAPOUR DENSITY:	Not available
RELATIVE DENSITY:	Not available
SOLUBILITY:	Miscible in water
PARTITION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not available
DECOMPOSITION TEMPERATURE:	Not available
VISCOSITY:	Not available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	Not reactive under normal conditions of storage or use.
CHEMICAL STABILITY:	Stable under normal conditions of storage or use.
POSSIBILITY OF HAZARDOUS REACTIONS:	Polymerization will not occur
CONDITIONS TO AVOID:	Not available.
INCOMPATIBLE MATERIALS:	Not available
HAZARDOUS DECOMPOSITION PRODUCTS:	Not available

SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY:	Not available.
SKIN CONTACT:	Prolonged or repeated contact may cause mild irritation.
EYE CONTACT:	May cause slight irritation.
INGESTION:	May cause gastrointestinal irritation, nausea and/or vomiting.
INHALATION:	No effects expected unless heated to produce vapours. Vapour or finely misted material may irritate the respiratory tract.
CARCINOGENICITY:	No information available.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
CHRONIC TOXICITY:	No information available.
TARGET ORGAN EFFECTS:	No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	No product or ingredient information available.
PERSISTENCE AND DEGRADABILITY:	Not available.
BIOACCUMULATIVE POTENTIAL:	Not available.
MOBILITY IN SOIL:	Not available.
OTHER ADVERSE EFFECTS:	Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose/incinerate in accordance with federal, state and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal.

SECTION 14: TRANSPORTATION INFORMATION

TDG:	Not regulated
DOT:	Not regulated
IATA:	Not regulated
IMDG:	Not regulated
UN NUMBER:	Not applicable
PROPER SHIPPING NAME:	Not applicable
CLASS:	Not applicable
PACKING GROUP:	Not applicable
IMDG HAZARDS:	Not applicable
BULK TRANSPORT:	Not applicable
SPECIAL PRECAUTIONS:	Not applicable

SECTION 15: REGULATORY INFORMATION

DSL:	On the DSL.
WHMIS CLASS:	Not controlled
TSCA:	On the list.

SECTION 16: OTHER INFORMATION

REVISION DATE:	May 18, 2018
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The information contained herein is given in good faith, but no warranty, expressed or implied, is made.



SAFETY DATA SHEET

Valvoline™ MP 2 CYCLE TC-W3 OUTBOARD
MOTOR OIL

Version: 3.0

Revision Date: 03/01/2024

Print Date:
03/01/2024

SECTION 1. IDENTIFICATION

Product name : Valvoline™ MP 2 CYCLE TC-W3
OUTBOARD MOTOR OIL

Product code : 3090

Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : Valvoline Canada Corp

Address : 905 Winston Churchill Blvd
Mississauga ON L5J 4P2
Canada

Telephone : 1-800-TEAMVAL (1-800-832-6825)

E-mail address : SDS@valvolineglobal.com

Emergency telephone
number : +1-800-VALVOLINE (+1-800-825-8654)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 4

Skin irritation : Category 2

Physical hazards not
otherwise classified : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H227 Combustible liquid.
May become electrostatically charged. Sparks may ignite liquid
and vapor.
H315 Causes skin irritation.



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MOTOR OIL

Version: 3.0

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Print Date:
03/01/2024

Precautionary statements

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 Store in a well-ventilated place.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Distillates (petroleum), hydro- treated light; Kerosine — unspecified	Distillates (petroleum), hydro- treated light; Kerosine — unspecified	64742-47-8	$\geq 10 - < 30$ *

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.



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If inhaled	: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	: No symptoms known or expected. Causes skin irritation.
Notes to physician	: No hazards which require special first aid measures. Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Carbon dioxide (CO ₂)
Unsuitable extinguishing media	: High volume water jet
Hazardous combustion products	: carbon dioxide and carbon monoxide
Further information	: For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
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.
Environmental precautions	: Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth,



SAFETY DATA SHEET

Valvoline™ MP 2 CYCLE TC-W3 OUTBOARD
MOTOR OIL

Version: 3.0

Revision Date: 03/01/2024

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vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.
- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : No smoking.
Keep in a well-ventilated place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydro-treated light; Kerosine — unspecified	64742-47-8	TWA	200 mg/m3 (total hydrocarbon vapor)	CA BC OEL
		TWAEV	200 mg/m3	CA QC OEL

Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection

Remarks : The suitability for a specific workplace should be discussed



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Eye protection	:	with the producers of the protective gloves. Eye wash bottle with pure water Tightly fitting safety goggles
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Flammability (liquids)	:	Static-accumulating flammable liquid.
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)	:	



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Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	36.8 mm ² /s (40 °C)
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	excessive heat None known.
Incompatible materials	:	Strong oxidizing agents Acids Strong oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.28 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg



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Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks : May cause skin irritation in susceptible persons.

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Assessment : Irritating to skin.

Result : Irritating to skin.

Serious eye damage/eye irritation

Not classified due to lack of data.

Product:

Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Carcinogenicity

Not classified due to lack of data.

Reproductive toxicity

Not classified due to lack of data.

STOT - single exposure

Not classified due to lack of data.



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STOT - repeated exposure

Not classified due to lack of data.

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

Persistence and degradability

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 58.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bioaccumulative potential

No data available

Mobility in soil

No data available



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Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

National Regulations

TDG

Not regulated as a dangerous good

Special precautions for user

Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

NPRI Components : Distillates (petroleum), hydro- treated light; Kerosine — unspecified



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

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: On the inventory, or in compliance with the inventory
DSL	: All components of this product are on the Canadian DSL
ENCS	: Not 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

Canadian lists

No substances are subject to a Significant New Activity Notification.

Inventories

AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information



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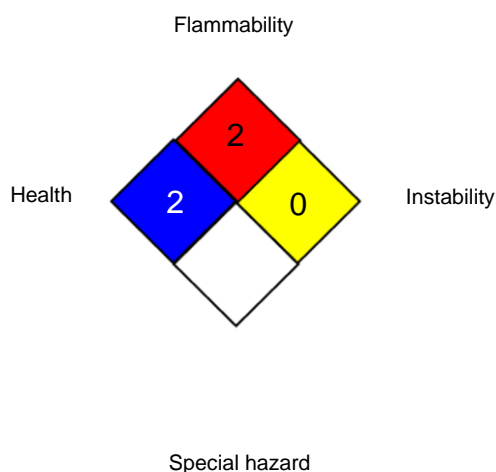
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NFPA 704:



HMIS® IV:

HEALTH	/	2
FLAMMABILITY		2
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
CA BC OEL / TWA	:	8-hour time weighted average
CA QC OEL / TWAEV	:	Time-weighted average exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC -



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New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 03/01/2024
Date format : mm/dd/yyyy

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.

CA / EN

Internal information : R0172415

Nitrogen, refrigerated liquid

Safety Data Sheet P-4630

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979

Revision date: 10/21/2016

Supersedes: 10/03/2014

SECTION 1: Product and company identification

1.1. Product identifier

Product form : Substance
Name : Nitrogen, refrigerated liquid
CAS No : 7727-37-9
Formula : N₂
Other means of identification : Nitrogen (cryogenic liquid), Nitrogen, Medipure Liquid Nitrogen

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

Use of the substance/mixture : Medical applications
Industrial use
Food applications

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification

Refrigerated liquefied gas H281

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS04

Signal word (GHS-US)

: WARNING

Hazard statements (GHS-US)

: H281 - CONTAINS REFRIGERATED GAS; MAY CAUSE CRYOGENIC BURNS OR INJURY
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION

Precautionary statements (GHS-US)

: P202 - Do not handle until all safety precautions have been read and understood
P271+P403 - Use and store only outdoors or in a well-ventilated place
P282 - Wear cold insulating gloves/face shield/eye protection. cold insulating gloves, face shield, eye protection
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG24 - DO NOT change or force fit connections
CGA-PG06 - Close valve after each use and when empty
CGA-PG23 - Always keep container in upright position

2.3. Other hazards

Other hazards not contributing to the

: Asphyxiant in high concentrations

Nitrogen, refrigerated liquid

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Specific methods	<p>: Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems</p> <p>Exposure to fire may cause containers to rupture/explode</p> <p>Stop flow of product if safe to do so</p> <p>Use water spray or fog to knock down fire fumes if possible</p> <p>If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.</p>
Other information	<p>: Cryogenic liquid causes severe frostbite, a burn-like injury. Heat of fire can build pressure in a closed container and cause it to rupture. Venting vapors may obscure visibility. Air will condense on surfaces such as vaporizers or piping exposed to liquid or cold gas. Nitrogen, which has a lower boiling point than oxygen, evaporates first, leaving an oxygen-enriched condensate</p> <p>Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.).</p>

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stop leak if safe to do so.
------------------	--

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.
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Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: Not applicable.
Critical pressure	: 3390 kPa
Relative vapor density at 20 °C	: No data available
Relative density	: 0.8
Density	: 808.5 kg/m ³ Liquid density at boiling point and 1 atm
Relative gas density	: 0.97
Solubility	: Water: 20 mg/l
Log Pow	: Not applicable.
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Explosion limits	: No data available

9.2. Other information

Gas group	: Refrigerated liquefied gas
Additional information	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Avoid high temperatures, exposure to Lithium (Li), Neodymium (Nd), Titanium (Ti), Magnesium.

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

Under certain conditions, nitrogen can react violently with lithium, neodymium, titanium (above 1472°F/800°C), and magnesium to form nitrides. At high temperature, it can also combine with oxygen and hydrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified pH: Not applicable.
Serious eye damage/irritation	: Not classified pH: Not applicable.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

EN (English US)

SDS ID: P-4630

5/9

Nitrogen, refrigerated liquid

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- DOT Special Provisions (49 CFR 172.102) :
- 345 - "Nitrogen, refrigerated liquid (cryogenic liquid), UN1977" transported in open cryogenic receptacles with a maximum capacity of 1 L are not subject to the requirements of this subchapter. The receptacles must be constructed with glass double walls having the space between the walls vacuum insulated and each receptacle must be transported in an outer packaging with sufficient cushioning and absorbent materials to protect the receptacle from damage
 - 346 - "Nitrogen, refrigerated liquid (cryogenic liquid), UN1977" transported in accordance with the requirements for open cryogenic receptacles in §173.320 and this special provision are not subject to any other requirements of this subchapter. The receptacle must contain no hazardous materials other than the liquid nitrogen which must be fully absorbed in a porous material in the receptacle
 - T75 - When portable tank instruction T75 is referenced in Column (7) of the 172.101 Table, the applicable refrigerated liquefied gases are authorized to be transported in portable tanks in accordance with the requirements of 178.277 of this subchapter
 - TP5 - For a portable tank used for the transport of flammable refrigerated liquefied gases or refrigerated liquefied oxygen, the maximum rate at which the portable tank may be filled must not exceed the liquid flow capacity of the primary pressure relief system rated at a pressure not exceeding 120 percent of the portable tank's design pressure. For portable tanks used for the transport of refrigerated liquefied helium and refrigerated liquefied atmospheric gas (except oxygen), the maximum rate at which the tank is filled must not exceed the liquid flow capacity of the pressure relief device rated at 130 percent of the portable tank's design pressure. Except for a portable tank containing refrigerated liquefied helium, a portable tank shall have an outage of at least two percent below the inlet of the pressure relief device or pressure control valve, under conditions of incipient opening, with the portable tank in a level attitude. No outage is required for helium

Additional information

- Emergency Response Guide (ERG) Number : 121 (UN1066);120 (UN1977)
- Other information : No supplementary information available.
- Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation.
 - Ensure that containers are firmly secured.
 - Ensure cylinder valve is closed and not leaking.
 - Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
 - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

- UN-No. (IMDG) : 1977
- Proper Shipping Name (IMDG) : NITROGEN, REFRIGERATED LIQUID
- Class (IMDG) : 2.2 - Non-flammable, non-toxic gases
- MFAG-No : 120

Air transport

- UN-No. (IATA) : 1977
- Proper Shipping Name (IATA) : NITROGEN, REFRIGERATED LIQUID
- Class (IATA) : 2
- Civil Aeronautics Law : Gases under pressure/Gases nonflammable nontoxic under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Nitrogen, refrigerated liquid (7727-37-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Sudden release of pressure hazard
All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.	

Nitrogen, refrigerated liquid

Safety Data Sheet P-4630

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

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SECTION 16: Other information

Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product

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NFPA health hazard

: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard

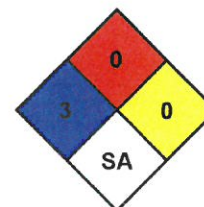
: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

NFPA specific hazard

: SA - This denotes gases which are simple asphyxiants.



HMIS III Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 0 Minimal Hazard

Physical

: 2 Moderate Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Appendix C: NT-NU Spill Report Form



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR		REPORT TIME		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____-_____
	B OCCURRENCE DATE: MONTH – DAY – YEAR		B OCCURRENCE TIME			
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION				REGION	
					<input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE			LONGITUDE		
	DEGREES	MINUTES	SECONDS	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	EMPLOYER	LOCATION CALLED	REPORT LINE NUMBER
		STATION OPERATOR		YELLOWKNIFE, NT	(867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					