SPILL CONTIGENCY MANAGEMENT PLAN:

LUPIN MINE WINTER ACCESS ROAD PROJECT

Updated March 2026

Emergency Contact Information

Organization	Contact	Location	Telephone/Radio
DTR – First Nations's Construction Corp	Dan Columbus	NWT	780-893-4947
Alkane Resources	Felix Mensah-Yeboah, Director	British Columbia	604-765-8795
Falkirk Environmental Consulting	Kellie Leedham, Project Manager	British Columbia	403-808-1534
JDS	Jon Melnyk, Project Manager	British Columbia	403-862-2994
NT-NU Spill Centre	Inspector	Yellowknife	867-767-9188
Government of Northwest Territories	Resource Management Officer	Kugluktuk	867-982-4306
Crown-Indigenous Relations and Northern Affairs	Field Operations	Iqaluit	867-975-4295
Mackenzie Valley Land and Water Board	Inspector	Yellowknife	867-766-7464
Nunavut Water Board	Licencing Department	Gjoa Haven	867-360-6338

Plain Language Summary

This Plan describe spill response actions to safely manage and clean a spill of fuel or other hazardous material while building and using the winter road from Lac de Gras to Lupin.

Revision History

Revision #	Date	Section	Summary of Changes	Author
1	Apr 2024	All	New document	N. McLaren
2	November 2025	All	Changes made to accommodate comments made during application review pertaining to: • Roles and responsibilities (2.0) • Product Inventory (3.0) • Spill kit contents (4.5) • Response procedures (4.0) • Safety Data Sheets (Appendix C)	K Leedham (Falkirk Environmental Consultants)
3	February 2026	2.2, 4.1, 4.2	• In-situ Combustion Details	K. Leedham (Falkirk Environmental Consultants)

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1. INTRODUCTION

A spill is an unplanned or uncontrolled release of a regulated or hazardous material, either as a solid, liquid or gas. Spills associated with Lupin Mine Inc. (Lupin Mine) Lupin Winter Access Road (the Project) may occur along the winter road route either on ice or on a portage overland. Regardless of the type or quantity of material involved, all work areas must implement measures to reduce the potential for spills and have an action plan for responding to spills. This Spill Contingency Plan (Plan) describes methods for preventing and responding to spills during the Project and considers the guidance provided in the various documents listed in Table 1-1.

1.1 SCOPE

The purpose of the Project is to construct and operate a portion of the Tibbitt to Contwoyto Winter Road (TCWR) route from the Ekati Mine turnoff on Lac de Gras in the Northwest Territories (NT; Lac de Gras) to the Lupin Mine in Nunavut (NU; Lupin) to mobilize and demobilize equipment and supplies that may be used for ongoing reclamation of Lupin in the Kitikmeot Region of Nunavut (the Project).

The Project includes transportation only of equipment and supplies such as bulk fuel, lime, and explosives to facilitate reclamation of the Lupin Mine. Materials storage, other than supplies that may be housed in the emergency shelter, is outside of the scope of the Project.

This Plan is effective for the duration of the land use operations, commencing upon approval of this Plan and effective through winter road construction, operations, and closure activities for a period of up to five years or as otherwise permitted.

Table 1-1: Relevant Guidance Documents Including Legislation, Permits and Licences

Document	Authority
Contingency Planning and Spill Reporting in Nunavut: A guide to the new regulations.	Government of Nunavut
Environmental Guidelines for the Construction, Maintenance and Closure of Winter Roads in the Northwest Territories (1993)	Government of Northwest Territories
A Guide to the Spill Contingency Planning and Reporting Regulations (2011)	Government of Northwest Territories
Nunavut Water Nunavut Surface Rights Tribunal Act (2002) and *Nunavut Water Regulations* (2013)	Indigenous and Northern Affairs Canada
Territorial Lands Act (1985) and *Land Use Regulations* (2016)	Indigenous and Northern Affairs Canada
Mackenzie Valley Resource Management Act (1998)	Government of Canada
Northwest Territories Lands Act (2014)	Government of Northwest Territories
Northwest Territories Lands Use Regulations (2014)	Government of Northwest Territories
Northwest Territories Waters Regulations (2014)	Government of Northwest Territories
Environmental Protection Act (1988)	Government of Northwest Territories
Waters Act (2014)	Government of Northwest Territories

Document	Authority
Spill Contingency Planning and Reporting Regulations (1993)	Government of Northwest Territories, Nunavut
Canadian Environmental Protection Act (1999)	Environment and Climate Change Canada
Environmental Emergency Regulations (2003)	Environment and Climate Change Canada
Transportation of Dangerous Goods Act (1992)	Transport Canada
Transportation of Dangerous Goods Regulations (2012)	Transport Canada
Hazardous Products Act (1985)	Health Canada
Canada Occupational Safety and Health Regulation (1986)	Employment and Social Development Canada

1.2 OBJECTIVES

Lupin Mine strives to meet and exceed best management practices regarding materials handling, however, it is recognized that accidental spills and unplanned releases may occur. Accordingly, the objective of this Plan is to:

- Ensure employees and contractors have adequate information to respond to spills in an effective manner; and
- Outline appropriate spill response measures to ensure personnel safety and environmental protection.

1.3 SITE DESCRIPTION

The Project occurs along an existing winter road route established in the 1970's and since used intermittently to service the Lupin Mine and the Jericho Mine (the Winter Road). The Winter Road route predominantly traverses lakes, with few portages where the road occurs overland (Figure 1-1). Of the 213 km, 95 km occur in Northwest Territories and 118 km occur in Nunavut. Seven (7) portages occur in Northwest Territories and there is one (1) portage in Nunavut.

The Winter Road occurs entirely above the tree line, with overland portions traversing the barren lands of the Southern Arctic Ecozone and the Tundra Shield Low Arctic Ecoregion, within the Slave Geologic province. Portages generally follow low-lying terrain found between lakes along the road route (EBA 2001, GNWT 2012).

The Winter Road is constructed and accessed in mid- to late-winter only. At this time, ground is frozen and snow covered, and ice thickness on lakes is up to 2 m thick.

1.4 PLAN MANAGEMENT

This Plan is intended to fulfill requirements associated with the water licence and land use licences and permits as well as existing legislation. The Plan will be updated to maintain a current contact list, as needed.

The Plan will be reviewed annually by the Project Manager and updated as needed. When material changes occur, the updated document will be issued externally as needed.

1.5 PLAN IMPLEMENTATION

This Plan is effective upon approval and is valid throughout all phases of the Project.

The Project Manager or designate is responsible for Plan implementation.

A copy of this Plan will be maintained by the Project Manager during construction and maintenance of the winter road.

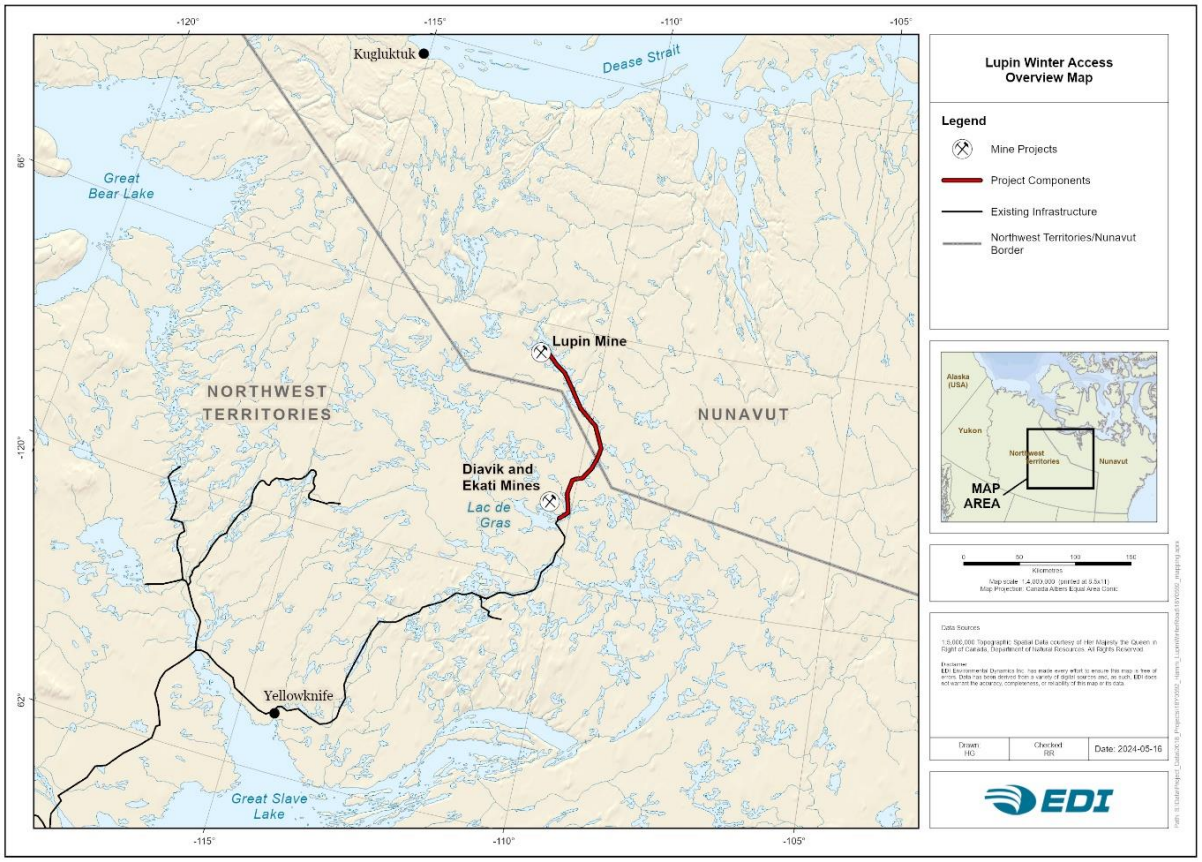


Figure 1-1: Lupin Mine Winter Road Location

2. ROLES AND RESPONSIBILITIES

Lupin Mine is responsible for activities associated with winter access to the Lupin Mine, including implementation and management of this Plan, and directing, documenting, and reporting pertaining to closure activities.

Lupin Mine's contact information is provided below.

Lupin Mines Incorporated
c/o Alkane Resources.
100 King Street West, 1 First Canadian Place, Suite 3400, Toronto, ON M5X 1A4

Contact:

Felix Mensah-Yeboah, Alkane
Phone: (604) 765-8795
Email: felix.mensah-yeboah@alkres.com

Kellie Leedham, Falkirk Environmental
Phone: (403) 808-1534
Email: kellie@falkirk.ca

2.1 STAFF, CONTRACTORS, SUPPLIERS, AND VENDORS

All personnel conducting activities on site, including staff, contractors, suppliers and visitors, are required to implement this Plan as it pertains to their activities on site. Specifically, these responsibilities include:

- Taking all necessary steps to minimize the chance of spills when working with materials that may pose a risk to worker health and the environment;
- Cooperating with your supervisor and/or Lupin Mine management to implement a spill prevention program;
- Carrying out only those duties and tasks that you are experienced at and trained to perform;
- Where there is uncertainty, asking questions and bring concerns to the attention of your supervisor when working with products that pose potential environmental and health risks;
- Responding to spills for which you are responsible or discover, and for which you have the requisite training and equipment; and
- Reporting all spills, regardless of size, to your supervisor or Lupin Mine management in a timely manner.

2.2 MANAGERS AND SUPERVISORS

Managers and supervisors have a responsibility to ensure that staff, contractors, consultants, and visitors have been trained in spill response expectations and procedures. Additional supervisor and manager responsibilities include:

- Maintaining a no blame work environment in initiating a spill response and related follow-up actions;
- Ensuring site-specific and material-specific training is provided to all departments and staff;
- Ensuring there are appropriate and sufficient spill response supplies in work area for the hazard characteristics and quantities of materials handled or transported;
- Provide assistance in response to chemical spills including the coordination of additional response personnel or equipment;

- Maintain records regarding inspections, personnel training, emergency equipment testing and spill kit maintenance;
- Contact and deploy a professional spill response company in the event of large spill, when in-situ combustion has been identified as the appropriate response, and
- Contact appropriate government agencies and emergency services where appropriate.

3. SPILL PREVENTION

Successful spill prevention is based on safe handling and transport of materials. Appropriate training based on level of responsibility will be provided for employees and road building contractors will be provided prior to construction.

3.1 PRODUCT INVENTORY

The identification and proper storage of potentially hazardous wastes for the project is an essential component of properly managing components of spill response. The following section describes storage of hazardous and potentially hazardous wastes to minimize the need for spill response.

3.1.1 Petroleum and Chemical Products

Table 3-1 provides a list of materials expected to be transported along the winter road. Note that products are not stored on site.

Should the need for temporary storage arise, such in the event of an emergency response, secondary containment will be established, and the inspector will be notified.

Safety Data Sheets (SDS) for the products below are included in Appendix C.

Table 3-1: Estimated Quantities of Petroleum and Chemical Products for the Project

Material	Estimated Amount	Container
ANFO	10,400 kg	Bags or sticks, on bulk haul trucks
Diesel	6 units	450 L truck-mounted tidy tanks
	1,500,000	Bulk haul trucks
	Up to 5	210 L drums in secondary containment, in emergency shelter
Gasoline	10 units	50 L jerry cans
Lime	40,000 kg	Bulk haul trucks
Propane	Up to 5 units	100 lb cylinders, in emergency shelter
Spent spill response materials	Various	205 L drums or lined mega bags
Various lubricants	5 units	5 gal pails
	40,000 L	Bulk haul trucks

3.1.2 Used Oil and Waste Fuel

Used oil and filters from vehicle maintenance and waste fuel will be managed in accordance with the Used Oil and Waste Fuel Management Regulation (NWT, 2004). Storage of used oil and waste from fuel or waste fuel will be stored at the camp facility until the end of the season, when they will be back-hauled to Yellowknife for final disposal at KBL.

- Storage will occur in a container that was manufactured for the purpose of storing petroleum products. Such containers can be easily inspected, tightly sealed, closed and handled to prevent leakages or spill and will be
- Storage in an area where access is controlled and monitored.
- Storage containers and areas will be labelled according to WHIMIS.

3.1.3 Antifreeze (and other chemicals)

Antifreeze will be stored in accordance with the NWT Guideline for the Management of Waste Antifreeze (1998). Storage best management practices include:

Antifreeze storage will include:

- Storage in containers (preferably originals) that are sound, sealed and not damaged or leaking and will be sealed or closed at all times.
- Waste antifreeze will NEVER be stored with food or in used food containers such as bottles or cans.
- Storage in an area where access is controlled and monitored.
- Storage containers and areas will be labelled according to WHIMIS.

3.2 Material Handling and Disposal

Material handling during the Project will be minimal as most materials will be transported along the Winter Road, with loading and unloading to occur at separately permitted facilities. Instances where materials may be handled includes during a spill response or vehicle and equipment refuelling during Construction. Considerations for proper material handling include:

- Conduct refueling and equipment repair in a designated area within secondary containment or utilizing a drip tray;
- Use equipment or seek assistance when transporting heavy or awkward containers;
- Use funnels and spill containment trays when pouring or transferring chemicals from one container to another; and
- Utilize proper PPE when handling hazardous materials.

Disposal is limited to the disposal of spent spill response materials. Should a spill and related cleanup occur, spend response materials will be backhauled for proper disposal off site.

4. SPILL RESPONSE

The nature of a spill response will vary depending upon the situation, the material spilled and location of the spill and the spill receiving environment. In all spill response scenarios, the following steps should be taken to ensure employee safety and environmental protection are maintained:

1. Ensure your own safety and the safety of your coworkers by:

a. Stop what you are doing;
b. Stay clear of the spill;
c. Warn others nearby,
d. Shut down nearby equipment;

2. If required, and if it is safe to do so, assist injured or contaminated persons;
3. Assess the situation. Notify and report, as needed:

    a. Emergency

        (i) if the spill poses a significant risk to persons, property or the environment, call for help and contact your supervisor or the Project Manager immediately;

    b. Non-emergency: proceed with appropriate spill response;

4. Consult the Safety Data System (SDS) sheets for exposure risk;
5. Put on appropriate personal protective equipment (PPE; gloves, safety glasses, apron, footwear);
6. Contain the spill as outlined in the following sections;
7. Label and prepare containers of waste and spent spill response materials appropriately;
8. Conduct spill reporting as outlined in Section 5;
9. Where required, participate in incident investigations and follow-up measures.

Reportable Spill Volumes are references in Appendix B, as per NT-NU SPILL REPORT. OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS (2024)

4.1 SPILLS TO SNOW

In the event of a spill to snow:

- If flowing fluid, construct an ice berm or barrier downslope of the spill by compacting snow and spraying with water (if conditions permit) or use synthetic, impervious sheeting;
- Compact snow around the perimeter of the spill area;
- Locate the low point of the spill area and clear channels in the snow towards this low point, to allow free product to flow into the low point;
- Recover free product through manual or mechanical means including shovels, heavy equipment and pumps, or if approved, combust in situ;
- Absorb petroleum residue with synthetic sorbent socks, pillows, pads, or granular materials;
- Mechanically recover all contaminated snow and ice.

4.1.1 In-situ combustion on snow

In the event of a large of a spill to snow, where in-situ combustion would be considered the final and most appropriate option for response, an external professional spill response company would be deployed. Truck drivers and road building contractors generally do not have the appropriate level of knowledge to safely or effectively perform in-situ combustion response. This level of response would likely only be required in the unlikely event of a large incident, such as the roll over of a large fuel truck. This type of incident has been very rare on the winter road.

4.2 SPILLS TO ICE

In the event of a spill to ice:

- Follow procedures for a spill to snow.

If materials penetrate and are under the ice:

- Drill holes through ice using ice auger to locate fuel/petroleum product;
- Once detected, cut slots in the ice using chain saws and remove ice blocks. Light non-aqueous phase liquids will collect in openings in the ice;
- Recover free product through manual or mechanical means including scoops or pumps, or, if approved, combust in situ; and
- Absorb petroleum residue with synthetic sorbent socks, pillows, or pads.

4.2.1 In-situ combustion on ice

In the event of a large of a spill to ice, where in-situ combustion would be considered the final and most appropriate option for response, an external professional spill response company would be deployed. Truck drivers and road building contractors generally do not have the appropriate level of knowledge to safely or effectively perform in-situ combustion response. This level of response would likely only be required in the unlikely event of a large incident, such as the roll over of a large fuel truck. This type of incident has been very rare on the winter road.

4.3 SPILLS TO WATER

A spill to water is less likely for this Project as is expected that water will generally be covered in ice. Regardless, all measures should be taken to prevent spills from entering water, as spills to water pose a greater environmental threat. In the event of a spill to water:

- Employ all measures possible to contain the spill.
- Booms can be used to recover petroleum products on lakes or slow-moving streams. Booms can be deployed near shore, or with the assistance of a boat if the spill is in a lake. If the spill occurs in a stream, the boom should be installed at an angle to the current.
- Once the boom has collected and pooled the spill, collection will be required with a pump or additional sorbent products.
- Weirs can be used to contain spills in streams, providing the weir allows water to flow. Sorbents can then be used to collect the spill.
- Sorbents in conjunction with barriers, such as netting or fencing can be used in flowing water. Place sorbents in the barrier to allow water to pass through. Sorbents need to be changed as soon as they are saturated.
- All fuel or other products collected in the boom, weirs, sorbents, and pumps will require appropriate disposal.

4.4 SPILLS TO LAND

A spill to land is less likely for this Project as it is expected that land will be covered in snow. In the event

of a spill to land:

- If soil is thawed, trenches can be dug to contain the spill. Digging the trench to the depth of bedrock or permafrost will allow for spill containment, and then removal and proper disposal.
- Dykes can be created around or down hill of the spill. The dyke should be large enough to contain all the spilled fuel. Plastic tarps can be used to line the berm and contain the spill.
- Spilled material recovered from land, either with pumps or sorbents will require appropriate disposal.

4.5 Spill Kits

Spill kits on site may vary based on location, project status, and supplier. Contents of typical small and large kits are presented below.

A typical small (68 L) spill kit may contain the following:

- 50 oil sorbent pads
- 4 small pillows
- 2 large pillows
- 4-4 inch socks
- 1 plug patty (instant leak-stop)
- 1 pair of nitrile gloves
- 1 pair of splash goggles
- 1 disposable respirator

A typical large (220 L) spill kit may contain the following:

- 4 socks (3” x 10’)
- 5 socks (3” x 4’)
- 50 pads
- 5 pillows
- 1 roll
- 1 drain cover
- 1 caution tape
- 2 pairs nitrile gloves
- 2 pairs safety goggles
- 2 protective coveralls
- 10 disposable bags
- 1 instruction book

Spill kits are inspected at the start of each field season and following each spill response to ensure contents are sufficient to operations. Spill kits will be located at appropriate locations along the winter road, based on the location of construction operations.

5. REPORTING AND DOCUMENTATION

5.1 Safety Data Sheets (SDS)

Safety Data Sheets (SDS) will be maintained by the road building and maintenance contractor, as a

condition of employment. The SDS sheets are reviewed at the start of the field season to ensure that appropriate and current SDS sheets are available. An example of the required SDS for the Project are included as Appendix C.

5.2 SPILL REPORTING

Spill reporting is a key component of the spill response efforts to ensure adequate response and remediation. Once it is safe to do so, the first responder shall collect the following info:

1. Date and time of spill
2. Location of spill
3. Direction the spill is moving
4. Name of contact person at location of spill, and phone number where applicable
5. Material and quantity spilled
6. Cause of spill
7. Whether spill is contained or stopped
8. Action taken to contain, recover, clean-up and dispose of spilled material

All spills and unplanned releases are reported to the Project Manager for further required reporting. Materials and quantities listed in Appendix B that are spilled or released in an unplanned manner require external reporting. In the event of a reportable spill and once it is safe to do so, the Project Manager or designate will initiate notification of the following:

1. Lupin Mine Project Manager.
2. NT-NU 24-hour spill report line.
3. CIRNAC and/or GNWT Inspector.

Following initial notification, the Project Manager will complete a NT-NU Spill Reporting Form. The completed form must be submitted to the Inspector within seven calendar days of the incident.

A detailed follow-up report must be submitted to the Inspector within 30 days of the incident.

6. TRAINING

All attendees to the project participate in a site orientation which outlines onsite hazards and roles and responsibilities regarding material handling, storage, and spill response. Spill kit contents and deployment are periodically reviewed at weekly site safety meetings. Training will be documented.

APPENDIX A. NT-NU Spill Report. Oil, Gasoline, Chemicals and Other Hazardous Materials (2024)

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
Tel: (867) 920-8130 • Email: spills@gov.nt.ca

A	Report Date: MM / DD / YY	Report Time:	☐ Original Spill Report OR ☐ Update # _____ to the Original Spill Report	Report Number:
B	Occurrence Date: MM / DD / YY	Occurrence Time:		
C	Land Use Permit Number (if applicable):		Water Licence Number (if applicable):	
D	Geographic Place Name or Distance and Direction from the Named Location:		Region: ☐ NT ☐ Nunavut ☐ Trans-boundary or Ocean	
E	Latitude: _____ Degrees _____ Minutes _____ Seconds		Longitude: _____ Degrees _____ Minutes _____ Seconds	
F	Responsible Party or Vessel Name:	Responsible Party Address or Office Location:		
G	Any Contractor Involved:	Contractor Address or Office Location:		

H	Product Spilled: ☐ Potential Spill	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	Summary of the spill incident and efforts / description of the incident:		

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:

Lead Agency: ☐ EC ☐ CCG/TCMSS ☐ GNWT ☐ GN ☐ ILA ☐ CIRNAC ☐ CER ☐ Other: _____

File Status: ☐ Open ☐ Closed

Agency:	Contact Name:	Contact Time:	Remarks:
Lead Agency:			
First Support Agency:			
Second Support Agency:			
Third Support Agency:			

Instructions for Completing the NT-NU Spill Report Form

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

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

APPENDIX B. Reportable Spill Volumes (Spill Contingency Planning and Reporting Regulations, NWT Reg (Nu) 068-93)

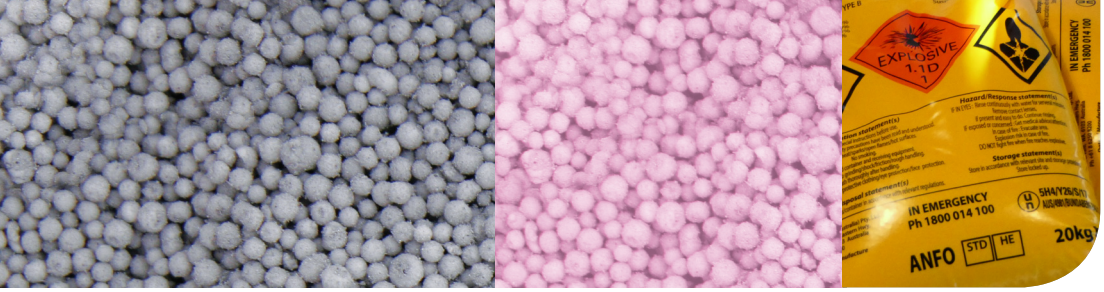
Substance	Reportable Quantity
• Explosives • Compressed gas (toxic/corrosive) • Infectious substances • Sewage and Wastewater (unless otherwise authorized) • Radioactive materials • Unknown substance	Any amount
• Compressed gas (Flammable) • Compressed gas (Non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100L
• Flammable liquid	≥100 L
• Flammable solid • Substances liable to spontaneous combustion • Water reactant substances	≥ 25 kg
• Oxidizing substances	≥ 50 L or 50 kg
• Organic peroxides • Environmentally hazardous substances intended for disposal	≥1 L or 1 kg
• Toxic substances	≥ 5 L or 5 kg
• Corrosive substances • Miscellaneous products, substances, or organisms	≥ 5 L or 5 kg
• PCB mixtures of 5 or more ppm	≥ 0.5 L or 0.5 kg
• Other contaminants--for example, crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, wastewater.	≥ 100 L or 100 kg
• Sour natural gas (i.e., contains H2S) • Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more
• Flammable liquid • Vehicle fluid	≥ 20 L When released on a frozen water body that is being used as a working surface

Substance	Reportable Quantity
Reported releases or potential releases of any size that: • are near or in an open water body; • are near or in a designated sensitive environment or habitat; • Pose an imminent threat to human health or safety; or • Pose an imminent threat to a listed species at risk or its critical habitat	Any amount

Note: *L = litre; kg = kilogram; PCB = Polychlorinated Biphenyls; ppm = parts per million*

Source : *https://www.canlii.org/en/nu/laws/regu/nwt-reg-nu-068-93*

APPENDIX C. Safety Data Sheets (SDS)



JOHNEX explosives

SAFETY DATA SHEET ANFO, ANFO HE, ANFO LF, STOPE CHARGE

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier
Product name: ANFO, ANFO HE, ANFO LF
Synonym(s): ANFO (AMMONIUM NITRATE FUEL OIL) • ANFO HE • ANFO HE110 • ANFO HE 115 • ANFO HE 120 • ANFO LF • STOPE CHARGE

1.2 Uses and uses advised against
Use(s): EXPLOSIVES • MINING EXPLOSIVE

1.3 Details of the supplier of the product
Supplier name: JOHNSON HI-TECH (AUSTRALIA) PTY LTD
Address: Level 1, 63 Abernethy Road, Belmont WA 6104 AUSTRALIA
Telephone: +61 8 6250 8200
Fax: +61 8 9473 2379
Email: info@johnex.com.au
Website: www.johnex.com.au

1.4 Emergency telephone number(s)
Emergency: 1800 014 100

SDS Date: 18 Jan 2021

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS
GHS classification(s): Explosives: Division 1.1
Serious Eye Damage / Eye Irritation: Category 2A
Carcinogenicity: Category 2

2.2 Label elements
Signal word: DANGER
Pictogram(s):

Hazard statement(s)

H201	Explosive; mass explosion hazard.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.

Prevention statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P250	Do not subject to grinding/shock/friction/rough handling.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response statement(s)

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.
P370 + P380	In case of fire: Evacuate area.
P372	Explosion risk in case of fire.
P373	DO NOT fight fire when fire reaches explosives.

Storage statement(s)

P401	Store in accordance with relevant site and storage provisions.
P405	Store locked up.

Disposal statement(s)

P501	Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards
No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
AMMONIUM NITRATE	6484-52-2	229-347-8	<94%
ALUMINIUM	7429-90-5	231-072-3	<20%
INERT MINERAL(S)	-	-	<15%
DIESEL FUEL NO. 2	68476-34-6	270-676-1	<7%
ZINC OXIDE	1314-13-2	215-222-5	<5%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centrre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator where an inhalation risk exists. Apply artificial respiration if not breathing
Skin	Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
First aid facilities	Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed
See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media
DO NOT attempt to extinguish burning explosives. Evacuate area immediately. Notify trained emergency response personnel.

5.2 Special hazards arising from the substance or mixture
EXPLOSIVE. Will explode under specific conditions. May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, etc when handling. CAUTION: Will explode if exposed to heat or with heavy impact.

5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Do not attempt to fight fire. Use waterfog to cool intact containers and nearby storage areas. May explode from heat, pressure, friction or shock.

5.4 Hazchem code
E Evacuation of people in and around the immediate vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. CAUTION: Heating, impact or static charge may cause explosion.

6.2 Environmental precautions
Prevent product from entering drains and waterways.

6.3 Methods of cleaning up
Explosive Material. Do not clean-up or dispose except under supervision of a specialist. Contain spillage, collect and place in suitable containers for disposal in accordance with AS2187.2. Eliminate all sources of ignition.

6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities
Store in clean, well ventilated and dry magazine licensed for Class 1 Explosives. Segregate from all incompatible substances and foodstuffs. Ensure magazines are adequately labelled and protected from physical damage/shock or friction.

7.3 Specific end use(s)
No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Aluminium (metal dust)	SWA (AUS)	--	10	--	--
Zinc oxide (dust)	SWA (AUS)	--	10	--	--
Zinc oxide (fume)	SWA (AUS)	--	5	--	10

Biological limits
No biological limit values have been entered for this product.

8.2 Exposure controls
Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended.

PPE
Eye / Face Wear safety glasses.
Hands Wear PVC or rubber gloves.
Body Wear coveralls.
Respiratory If entering poorly ventilated or confined areas shortly after explosions wear self contained breathing apparatus.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	OFF-WHITE SOLID PRILLS
Odour	FUEL OIL ODOUR OR KEROSENE ODOUR
Flammability	EXPLOSIVE
Flash point	NOT AVAILABLE
Boiling point	NOT AVAILABLE
Melting point	> 169°C
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Specific gravity	0.7 to 1.10
Solubility (water)	95% SOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT AVAILABLE
Lower explosion limit	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	> 210°C
Viscosity	NOT AVAILABLE
Explosive properties	EXPLOSIVE; mass explosion hazard
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

% Volatiles	< 8 %

10. STABILITY AND REACTIVITY

10.1 Reactivity
Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability
Potential for exothermic hazard.

10.3 Possibility of hazardous reactions
Polymerization will not occur.

10.4 Conditions to avoid
Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials
May detonate if heated strongly or exposed to severe shock. Incompatible (explosively) with acids (e.g. nitric acid), metal powders, combustible materials, alkalis (e.g. sodium hydroxide), oxidising agents (e.g. hypochlorites), chloride salts, sulphur, urea, nitrites and reducing agents.

10.6 Hazardous decomposition products
May evolve toxic gases (carbon/nitrogen oxides, hydrocarbons) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
Information available for the product: Based on available data, the classification criteria are not met. WARNING: May explode with shock, heat, friction or static charge. Serious damage may result from explosive fragments.

Information available for the ingredient(s):

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
AMMONIUM NITRATE	2217 mg/kg (rat)	-	-
DIESEL FUEL NO. 2	5-15 g/kg diesel oil	-	-
ZINC OXIDE	7950 mg/kg (mouse)	-	2500 mg/m³ (mouse)

Skin Contact may result in irritation, redness, pain, rash and dermatitis.
Eye Contact may result in irritation, lacrimation, pain, blurred vision and redness.
Sensitisation Not classified as causing skin or respiratory sensitisation.
Mutagenicity Not classified as a mutagen.
Carcinogenicity Diesel fuels, distillate (light) is not classifiable as to its carcinogenicity to humans (IARC Group 3).
Reproductive Not classified as a reproductive toxin.
STOT – single exposure Over exposure may result in irritation of the nose and throat, coughing, nausea and headache. High level exposure may result in drowsiness, breathing difficulties and methaemoglobinemia (blood's oxygen-carrying capacity is reduced).
STOT – repeated exposure Not classified as causing organ damage from repeated exposure.
Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No information provided.

12.2 Persistence and degradability
No information provided.

12.3 Bioaccumulative potential
No information provided.

12.4 Mobility in soil
No information provided.

12.5 Other adverse effects
Ammonium nitrate is a nutrient in water. Spills can cause massive algal blooms in static waters and affect local species population balance in the aquatic environment. If water is used to disperse ammonium nitrate spilled on soil, the solution produced can end up in the groundwater. Ammonium nitrate will be taken up by bacteria. Nitrate is more persistent in water than the ammonium ion.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Waste disposal Waste must be disposed of in accordance with AS2187.2 as well as state regulatory and environmental legislation. Small quantities of damaged or deteriorated material may be destroyed by inclusion in a blast hole containing good explosives (by licensed personnel). Detonators should not be inserted into defective explosives. For large quantities, contact the manufacturer/supplier for additional information.
Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	0082	0082	PROH
14.2 Proper Shipping Name	EXPLOSIVE, BLASTING, TYPE B	EXPLOSIVE, BLASTING, TYPE B	Air transport PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in passenger and cargo aircraft.
14.3 Transport Hazard Class	1.1D	1.1D	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards
No information provided

14.6 Special precautions for user
Hazchem code E

EMS F-B, S-Y

Other information
AIR TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in passenger aircraft and cargo aircraft.

15. REGULATORY INFORMATION

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

Poison schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
Hazard codes	Carc. Carcinogen E Explosive Xi Irritant
Risk phrases	R2 Risk of explosion by shock, friction, fire or other sources of ignition. R36 Irritating to eyes. R40 Limited evidence of a carcinogenic effect.
Safety phrases	S16 Keep away from sources of ignition - No smoking. S36/37 Wear suitable protective clothing and gloves.
Inventory listing(s)	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information
EXPLOSIVES & BLASTING AGENTS: Refer to Local State and Federal legislation that specifically relates to the use of Explosives. Users of products described in this ChemAlert Report are advised to ensure familiarity and compliance with the appropriate legal requirements (e.g. Regulations) prior to the use of this product. Where any further information is required, users may contact their local authority in Explosives and Dangerous Goods.
EXPLOSIONS: Fires involving explosives or explosive mixtures may undergo further explosions and rapid propagation. Police and emergency personnel should be notified immediately. Evacuate individuals to a safe sheltered area at least 800 metres away. If possible remove vehicles and further heat and ignition sources from the area. Do not return to areas until at least one hour after fire and explosions have ceased.
EXPLOSIVES - DETONATION: If explosives are detonated on stony ground or in an area where debris is likely to become missiles, damage can be expected within 400 metres when three kilograms of explosives are detonated. For this reason it is recommended that explosives should be detonated in sand or earth that is free from stones.
EXPLOSIVES - BURNING SAFETY: Note: Disposal in a blast with fresh explosives may be preferable to burning.
(a) Make a sawdust (or newspaper) trail 450mm wide and ~20mm deep in the direction of the wind. The trail should be 2m longer than necessary.
(b) Place the cartridges on the sawdust (or paper), they may be touching, but not piled on top of each other
(c) Individual trails should be no closer than 2m and should not contain more than 12kgs of explosives.
(d) Trails should be side by side, not in a line. No more than 4 should be set up at one time.
(e) Remove explosives not being burnt, to at least 300m away, unless the material can be stored behind something substantial.
(f) Thoroughly wet the trail with kerosene or diesel (never petrol or any other highly flammable liquid). Use at least 2L of fuel per 10m of trail.
(g) Light the trail from a long rolled paper wick, place down wind and contact the 2m of trail which is not covered by explosives. The flame should blow away from the unburned explosives otherwise preheating and detonation may occur.
(g) Use a plastic igniter if available instead of paper. Coil one end into the sawdust or under the paper and light the other end from a minimum distance of 7m away from the trail.
(h) Move away at least 300m. Do not return for a period of at least 30mins after burning has finished.
(j) If the fire goes out, do not approach for at least 15mins. Do not add kerosene or diesel oil unless certain that the flame is completely extinguished.
(k) Bury the residue as it is poisonous to livestock.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

SAFETY DATA SHEET

DIESEL FUEL

SDS Number: 000003000395

Version: 7.1 Revision Date: 2024/05/06 Print Date: 2024/05/07

SECTION 1. IDENTIFICATION

Product name	:	DIESEL FUEL
Product code	:	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.

Manufacturer or supplier's details

Company name of supplier Address	:	Petro-Canada 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

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 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	Fatty acids,	129756-24-7	<= 20

and C14-18-unsatd., Me esters	C14-18 and C14-18-unsatd., Me esters		

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.
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 (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 (NOx), sulphur oxides (SOx), 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. 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.
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/m³ (total hydrocarbons)	CA AB OEL
		TWA (inhalable fraction and vapour)	100 mg/m³ (total hydrocarbons)	CA BC OEL
		TWAEV (inhalable fraction and vapour)	100 mg/m³ (total hydrocarbons)	CA QC OEL
		TWA (Inhalable fraction and vapor)	100 mg/m³ (total hydrocarbons)	ACGIH

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

Personal protective equipment

Respiratory protection : Concentration in air determines protection needed.
Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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

Hand protection

Material	:	neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.
Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Wear 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

Appearance	:	Bright oily liquid.
Color	:	Clear to yellow (This product may be dyed red for taxation purposes)
Odor	:	Mild petroleum oil like.
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling	:	150 - 371 °C

range		
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
Evaporation rate	:	No data available
Flammability (solid, gas)	:	not applicable
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
Viscosity		
Viscosity, kinematic	:	1.3 - 4.1 cSt (40 °C)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable at normal ambient temperature and pressure.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac-	:	Hazardous polymerization does not occur.

tions

Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Reactive with oxidising agents and acids.
Hazardous decomposition products	:	May release COx, NOx, SOx, 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:

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

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
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

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 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
CA AB OEL / TWA	:	8-hour time weighted average
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 - 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 : 2024/05/06

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

SAFETY DATA SHEET

GASOLINE, UNLEADED

SDS Number: 000003000644

Version: 4.0 Revision Date: 2023/04/19 Print Date: 2023/04/20

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	:	TN-PE-TM15-X00-1499; LVB87, Regular, Unleaded Gasoline (US Grade), Mid-Grade, Plus, Super, WinterGas, Summer-Gas, Supreme, SuperClean, SuperClean WinterGas, Regu-larClean, PlusClean, Premium, marked or dyed gasoline, TQRUL, transitional quality regular unleaded, BOB, Blend-stock for Oxygenate Blending, Conventional Gasoline, RUL, MUL, SUL, PUL, Additive Denaturant

Manufacturer or supplier's details

Company name of supplier Address	:	Petro-Canada 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 recrea-tional 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 - single exposure	:	Category 3 (Central nervous system)
Specific target organ toxicity - repeated exposure	:	Category 1
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 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.
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.

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.

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	85 - 100
toluene	toluene	108-88-3	0 - 40
benzene	benzene	71-43-2	0.006 - 1.5
ethanol	ethanol	64-17-5	0 - 0.3
methanol	methanol	67-56-1	0 - 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 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.
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 (NOx), 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

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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame-ters / 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
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
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	300 ppm	CA AB OEL
		STEL	500 ppm	CA AB OEL
		TWA	0.5 ppm	ACGIH
		STEL	2.5 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 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

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

Odor	:	Gasoline
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	25 - 225 °C
Flash point	:	-50 - -38 °C Method: Tagliabue.
Evaporation rate	:	No data available
Flammability (solid, gas)	:	not applicable
Self-ignition	:	257 °C
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	:	No data available
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	:	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

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method Remarks: Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	Acute toxicity estimate: > 20 mg/L Exposure time: 4 h Test atmosphere: vapor Method: Calculation method Remarks: Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method Remarks: Based on available data, the classification criteria are not met.

Components:

Gasoline; Low boiling point naphtha -unspecified:

Acute oral toxicity	:	LD50 (Rat): 13,600 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 3,750 mg/kg

toluene:

Acute oral toxicity	:	LD50 (Rat): 5,580 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 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.

STOT-single exposure

May cause drowsiness or dizziness.

Product:

Target Organs : Central nervous system

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Product:

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. 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
ethanol
methanol
xylene
Naphtha (petroleum), hydrotreated heavy; Low boiling point ydrogen treated naphtha
Ethylbenzene
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified
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 / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

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Revision Date : 2023/04/19

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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

Hydrated Lime

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Revision Date: 01/01/2022 Date of Issue: 02/01/2022 Version: 3.2

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Lafarge Hydrated Lime

Synonyms: Slaked Lime, Dolomitic Hydrated Lime, Lime, Caustic Lime, Lime Hydrate, Calcium Hydroxide, Calcium Dihydroxide, Calcium Magnesium Hydroxide, Type N Lime, Type S Lime

Note: This SDS covers many types of hydrated lime. Individual composition of hazardous constituents will vary between types of hydrated lime.

1.2. Intended Use of the Product

Hydrated lime is used as an additive for mortar, cement, concrete and concrete products. It is also used in soil stabilization, as an anti-stripping agent in asphalt, for pH adjustment, and in other products that are widely used in construction.

1.3. Name, Address, and Telephone of the Responsible Party

Company – Lafarge Canada

Western Canada
#300 115 Quarry Park Road SE
Calgary, AB T2C 5G9
Phone: (403) 225-5400

Eastern Canada
6509 Airport Road
Mississauga, ON L4V 157
Phone: (905) 738-7070

Website:www.lafarge.ca

1.4. Emergency Telephone Number

Emergency Number : Chemtel 1-800-255-3924 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Skin Corr. 1C	H314
Eye Dam. 1	H318
Carc. 1A	H350

Full text of hazard classes and H-statements : see Section 16.

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :

GHS05

GHS08

Signal Word (GHS-US/CA) : Danger

Hazard Statements (GHS-US/CA) : H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H350 - May cause cancer (Inhalation).

Precautionary Statements (GHS-US/CA) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for

breathing.
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.
P310 - Immediately call a POISON CENTER or doctor.
P321 - Specific treatment (see Section 4 on this SDS).
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Calcium hydroxide	(CAS-No.) 1305-62-0	50 - 95	Skin Corr. 1C, H314 Eye Dam. 1, H318
Magnesium hydroxide	(CAS-No.) 1309-42-8	0 - 50	Not classified
Calcium oxide	(CAS-No.) 1305-78-8	0 - 5	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402
Magnesium oxide (MgO)	(CAS-No.) 1309-48-4	0 - 5	Not classified
Limestone	(CAS-No.) 1317-65-3	0 - 3	Not classified
Quartz	(CAS-No.) 14808-60-7	0 - 1	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372

Full text of H-phrases: see Section 16.

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes and continue flushing throughout emergency transport, if needed. Immediately call a poison center or physician. Wash contaminated clothing before reuse.

Eye Contact: Get medical attention immediately and begin flushing eyes with plenty of water for at least 30 minutes and continue flushing eyes throughout emergency transport. Immediately call a poison center or physician. Occasionally lift the upper and lower eyelids during flushing. Remove any contact lenses, if possible. Chemical burns should be treated promptly by a physician.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Causes severe skin burns and eye damage. May cause cancer.

Inhalation: May be corrosive to the respiratory tract. The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Skin Contact: Causes severe irritation which will progress to chemical burns. Hydrated lime may cause dry skin, discomfort, irritation, severe burns. Exposure of sufficient duration to wet or dry hydrated lime can cause serious, potentially irreversible damage to skin due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort.

Eye Contact: Potentially causes permanent damage to the cornea, iris, or conjunctiva. Hydrated lime dust may cause immediate or delayed irritation or inflammation. Eye contact with dry powder or with wet hydrated lime can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.

Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: May cause cancer.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Silicon oxides. Calcium oxides.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Cautiously neutralize spilled solid. Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May release corrosive vapors. Cutting, crushing or grinding wet or dry lime or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not get in eyes, on skin, or on clothing. Handle empty containers with care because they may still present a hazard. Do not breathe dust. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Store in original container or corrosive resistant and/or lined container. Store away from incompatible materials.

Incompatible Materials: Wet hydrated lime and cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Hydrated lime and cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Hydrated lime and cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

7.3. Specific End Use(s)

Hydrated lime is used as an additive for mortar, cement, concrete and concrete products. It is also used in soil stabilization, as an anti-stripping agent in asphalt, for pH adjustment, and in other products that are widely used in construction.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in Section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m³)	0.1 mg/m³ (respirable fraction)
USA ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m³)	50 µg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³ (respirable dust)
USA IDLH	US IDLH (mg/m³)	50 mg/m³ (respirable dust)
Alberta	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate)
British Columbia	OEL TWA (mg/m³)	0.025 mg/m³ (respirable)
Manitoba	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m³)	0.1 mg/m³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
Nunavut	OEL TWA (mg/m³)	0.05 mg/m³ (respirable fraction)
Northwest Territories	OEL TWA (mg/m³)	0.05 mg/m³ (respirable fraction)
Ontario	OEL TWA (mg/m³)	0.1 mg/m³ (designated substances regulation-respirable)
Prince Edward Island	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)

Québec	VEMP (mg/m³)	0.1 mg/m³ (respirable dust)
Saskatchewan	OEL TWA (mg/m³)	0.05 mg/m³ (respirable fraction)
Yukon	OEL TWA (mg/m³)	300 particle/mL

Limestone (1317-65-3)		
Mexico	OEL TWA (mg/m³)	10 mg/m³
Mexico	OEL STEL (mg/m³)	20 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)
Alberta	OEL TWA (mg/m³)	10 mg/m³
British Columbia	OEL STEL (mg/m³)	20 mg/m³ (total dust)
British Columbia	OEL TWA (mg/m³)	10 mg/m³ (total dust) 3 mg/m³ (respirable fraction)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m³)	20 mg/m³
Nunavut	OEL TWA (mg/m³)	10 mg/m³
Northwest Territories	OEL STEL (mg/m³)	20 mg/m³
Northwest Territories	OEL TWA (mg/m³)	10 mg/m³
Québec	VEMP (mg/m³)	10 mg/m³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m³)	20 mg/m³
Saskatchewan	OEL TWA (mg/m³)	10 mg/m³
Yukon	OEL STEL (mg/m³)	20 mg/m³
Yukon	OEL TWA (mg/m³)	30 mppcf 10 mg/m³

Calcium oxide (1305-78-8)		
Mexico	OEL TWA (mg/m³)	2 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	2 mg/m³
USA IDLH	US IDLH (mg/m³)	25 mg/m³
Alberta	OEL TWA (mg/m³)	2 mg/m³
British Columbia	OEL TWA (mg/m³)	2 mg/m³
Manitoba	OEL TWA (mg/m³)	2 mg/m³
New Brunswick	OEL TWA (mg/m³)	2 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	2 mg/m³
Nunavut	OEL STEL (mg/m³)	4 mg/m³
Nunavut	OEL TWA (mg/m³)	2 mg/m³
Northwest Territories	OEL STEL (mg/m³)	4 mg/m³
Northwest Territories	OEL TWA (mg/m³)	2 mg/m³
Ontario	OEL TWA (mg/m³)	2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	2 mg/m³
Québec	VEMP (mg/m³)	2 mg/m³
Saskatchewan	OEL STEL (mg/m³)	4 mg/m³
Saskatchewan	OEL TWA (mg/m³)	2 mg/m³
Yukon	OEL STEL (mg/m³)	4 mg/m³
Yukon	OEL TWA (mg/m³)	2 mg/m³

Magnesium oxide (MgO) (1309-48-4)		
Mexico	OEL TWA (mg/m³)	10 mg/m³ (fume)

USA ACGIH	ACGIH TWA (mg/m³)	10 mg/m³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (fume, total particulate)
USA IDLH	US IDLH (mg/m³)	750 mg/m³ (fume)
Alberta	OEL TWA (mg/m³)	10 mg/m³ (fume)
British Columbia	OEL STEL (mg/m³)	10 mg/m³ (respirable dust and fume)
British Columbia	OEL TWA (mg/m³)	10 mg/m³ (fume, inhalable) 3 mg/m³ (respirable dust and fume)
Manitoba	OEL TWA (mg/m³)	10 mg/m³ (inhalable particulate matter)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³ (fume)
Newfoundland & Labrador	OEL TWA (mg/m³)	10 mg/m³ (inhalable particulate matter)
Nova Scotia	OEL TWA (mg/m³)	10 mg/m³ (inhalable particulate matter)
Nunavut	OEL STEL (mg/m³)	20 mg/m³ (inhalable fraction)
Nunavut	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Northwest Territories	OEL STEL (mg/m³)	20 mg/m³ (inhalable fraction)
Northwest Territories	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Ontario	OEL TWA (mg/m³)	10 mg/m³ (inhalable)
Prince Edward Island	OEL TWA (mg/m³)	10 mg/m³ (inhalable particulate matter)
Québec	VEMP (mg/m³)	10 mg/m³ (fume)
Saskatchewan	OEL STEL (mg/m³)	20 mg/m³ (inhalable fraction)
Saskatchewan	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Yukon	OEL STEL (mg/m³)	10 mg/m³ (fume)
Yukon	OEL TWA (mg/m³)	10 mg/m³ (fume)

Calcium hydroxide (1305-62-0)		
Mexico	OEL TWA (mg/m³)	5 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³
Alberta	OEL TWA (mg/m³)	5 mg/m³
British Columbia	OEL TWA (mg/m³)	5 mg/m³
Manitoba	OEL TWA (mg/m³)	5 mg/m³
New Brunswick	OEL TWA (mg/m³)	5 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	5 mg/m³
Nova Scotia	OEL TWA (mg/m³)	5 mg/m³
Nunavut	OEL STEL (mg/m³)	10 mg/m³
Nunavut	OEL TWA (mg/m³)	5 mg/m³
Northwest Territories	OEL STEL (mg/m³)	10 mg/m³
Northwest Territories	OEL TWA (mg/m³)	5 mg/m³
Ontario	OEL TWA (mg/m³)	5 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	5 mg/m³
Québec	VEMP (mg/m³)	5 mg/m³
Saskatchewan	OEL STEL (mg/m³)	10 mg/m³
Saskatchewan	OEL TWA (mg/m³)	5 mg/m³
Yukon	OEL STEL (mg/m³)	10 mg/m³
Yukon	OEL TWA (mg/m³)	5 mg/m³

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Insufficient ventilation and/or dust generation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics. Corrosion-proof clothing.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles and face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	:	Solid
Appearance	:	White or Grey Powder
Odor	:	Odorless
Odor Threshold	:	Not available
pH	:	12 - 13 (In Water)
Evaporation Rate	:	Not available
Melting Point	:	Not available
Freezing Point	:	Not available
Boiling Point	:	> 1000 °C (> 1832 °F)
Flash Point	:	Not available
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20°C	:	Not available
Relative Density	:	1.9 - 2.4 (Water = 1)
Specific Gravity	:	Not available
Solubility	:	Negligible.
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see Section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Extremely high or low temperatures and incompatible materials.

10.5. Incompatible Materials: Wet hydrated lime and cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Hydrated lime and cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Hydrated lime and cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

10.6. Hazardous Decomposition Products: Hydrated lime will decompose at 540ºC to produce calcium oxide (quicklime), magnesium oxide, and water.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

pH: 12 - 13 (in water)

Eye Damage/Irritation: Causes serious eye damage.

pH: 12 - 13 (in water)

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer (Inhalation).

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May be corrosive to the respiratory tract. The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Symptoms/Injuries After Skin Contact: Causes severe irritation which will progress to chemical burns. Hydrated lime may cause dry skin, discomfort, irritation, severe burns. Exposure of sufficient duration to wet or dry hydrated lime can cause serious, potentially irreversible damage to skin due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort.

Symptoms/Injuries After Eye Contact: Potentially causes permanent damage to the cornea, iris, or conjunctiva. Hydrated lime dust may cause immediate or delayed irritation or inflammation. Eye contact with dry powder or with wet hydrated lime can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: May cause cancer.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg
Magnesium oxide (MgO) (1309-48-4)	
LD50 Oral Rat	3870 mg/kg
Calcium hydroxide (1305-62-0)	
LD50 Oral Rat	7340 mg/kg
Magnesium hydroxide (1309-42-8)	
LD50 Oral Rat	8500 mg/kg
Quartz (14808-60-7)	

IARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

Calcium oxide (1305-78-8)	
LC50 Fish 1	50.6 mg/l

12.2. Persistence and Degradability

Hydrated Lime	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Hydrated Lime	
Bioaccumulative Potential	Not established.

Calcium oxide (1305-78-8)	
BCF Fish 1	(no bioaccumulation)

Calcium hydroxide (1305-62-0)	
BCF Fish 1	(no bioaccumulation)

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Hydrated Lime	
SARA Section 311/312 Hazard Classes	Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation Health hazard - Carcinogenicity

Quartz (14808-60-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Limestone (1317-65-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Calcium oxide (1305-78-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Magnesium oxide (MgO) (1309-48-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Calcium hydroxide (1305-62-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Magnesium hydroxide (1309-42-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

Quartz (14808-60-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Quartz (14808-60-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Limestone (1317-65-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Calcium oxide (1305-78-8)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Magnesium oxide (MgO) (1309-48-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Calcium hydroxide (1305-62-0)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

Limestone (1317-65-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Calcium oxide (1305-78-8)

Listed on the Canadian DSL (Domestic Substances List)

Magnesium oxide (MgO) (1309-48-4)

Listed on the Canadian DSL (Domestic Substances List)

Calcium hydroxide (1305-62-0)

Listed on the Canadian DSL (Domestic Substances List)

Magnesium hydroxide (1309-42-8)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : January 1, 2022

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1C	Skin corrosion/irritation Category 1C
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life

An electronic version of this SDS is available on www.lafarge.ca under the Health and Safety Section. Please direct any inquiries regarding the content of this SDS to SDSinfo@Lafarge.com.

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NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

NA GHS SDS 2015 (Can, US, Mex)

Section 1: IDENTIFICATION

Product Name: Propane

Synonyms: LPG (Liquefied Petroleum Gas); LP-Gas.

Product Use: Propane is commonly used as a fuel for heating, cooking, automobiles, forklift trucks, crop drying and welding and cutting operations. Propane is used in industry as a refrigerant, solvent and as a chemical feedstock.

Restrictions on Use: Not available.

Manufacturer/Supplier: Superior Propane
Suite 400, 6750 Century Avenue
Mississauga, ON L5N 2V8

Phone Number: 1-877-873-7467

Emergency Phone: CANUTEC 1-888-CAN-UTEC (226-8832) or 613-996-6666 or *666 on a cellular phone

Date of Preparation of SDS: September 17, 2021

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification: Flammable Gases, Category 1
Gases Under Pressure - Compressed Gas
Simple Asphyxiant, Category 1

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements: Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response: Leaking gas fire: Do not extinguish unless leak can be stopped safely.
Eliminate all ignition sources if safe to do so.

Storage: Store in a well ventilated place.

Disposal: Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200). This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% vol./vol.
Propane	Not available.	74-98-6	90 - 99
Ethane	Not available.	74-84-0	0 - 5
1-Propene	Propylene	115-07-1	0 - 5
Butane	Not available.	106-97-8	0 - 2.5

Section 4: FIRST-AID MEASURES

Inhalation:

Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: May displace oxygen and cause rapid suffocation. Central nervous system depression can occur if product is present in concentrations that will reduce the oxygen content of air below 18 % (vol). Symptoms may include headache, lightheadedness, drowsiness, disorientation, vomiting and seizures. Unconsciousness and death may occur with severe oxygen deprivation. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Eye Contact:

Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if needed. Continue rinsing. Immediately call a poison center or doctor.

Acute and delayed symptoms and effects: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result.

Skin Contact:

Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. If on skin: Wash with plenty of water. Get immediate medical advice/attention. Thaw frosted parts with lukewarm water. Do not rub affected area. Remove non-adhering contaminated clothing. Do not remove adherent material or clothing.

Acute and delayed symptoms and effects: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Symptoms of frostbite include change in skin colour to white or grayish-yellow. The pain after contact with liquid can quickly subside.

Ingestion:

Not a normal route of exposure.

Acute and delayed symptoms and effects: Not a normal route of exposure.

General Advice:

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

Note to Physicians:

Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Extremely flammable gas. Contains gas under pressure; may explode if heated. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

If a tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discolouration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Sensitivity to Mechanical Impact:	This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge:	This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media:	Small Fire: Dry chemical or CO2. Large Fire: Water spray or fog. Move containers from fire area if you can do it without risk.
Unsuitable Extinguishing Media:	Not available.
Products of Combustion:	Oxides of carbon.
Protection of Firefighters:	Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Vapors may cause dizziness or asphyxiation without warning. Some may be irritating if inhaled at high concentrations. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. Fire may produce irritating and/or toxic gases. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Keep out of low areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.

Personal Precautions:	Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
Environmental Precautions:	Not normally required.
Methods for Containment:	Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak.
Methods for Clean-Up:	Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.
Other Information:	See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:

Avoid breathing gas. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. See Section 8 for information on Personal Protective Equipment.

Storage:
Store in a well-ventilated place. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Propane [CAS No. 74-98-6]

ACGIH: Simple asphyxiant; Explosion hazard
OSHA: 1000 ppm (TWA), 1800 mg/m³ (TWA);

Ethane [CAS No. 74-84-0]

ACGIH: Simple asphyxiant; Explosion hazard
OSHA: No PEL established.

Propylene [CAS No. 115-07-1]

ACGIH: 500 ppm (TWA); A4 (2005)
OSHA: No PEL established.

Butane [CAS No. 106-97-8]

ACGIH: 1000 ppm (STEL); Explosion hazard (2012)
OSHA: 800 ppm (TWA) [Vacated];

PEL: Permissible Exposure Limit
TWA: Time-Weighted Average
C: Ceiling

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection: Wear safety glasses. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear insulated neoprene gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing.

Respiratory Protection: If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquefied gas.
Colour:	Colourless.
Odour:	Odourless, unless odourized with ethyl mercaptan (skunky odour, similar to boiling cabbage).
Odour Threshold:	4800 ppm
Physical State:	Gas.
pH:	Not available.
Melting Point / Freezing Point:	-188 °C (-306.4 °F)
Initial Boiling Point:	-42.2 °C (-44 °F)
Boiling Point:	-42 °C (-43.6 °F)
Flash Point:	-103.4 °C (-154.1 °F) (Closed Cup)
Evaporation Rate:	Rapid.
Flammability (solid, gas):	Extremely flammable gas.

Lower Flammability Limit:	2.1%
Upper Flammability Limit:	9.5%
Vapor Pressure:	1435 kPa (maximum) at 37.8 °C (100 °F)
Vapor Density:	1.52 (Air = 1)
Relative Density:	0.51 (Water = 1)
Solubilities:	Slight, 6.1% by volume @ 17.8°C (64 °F)
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	432 °C (809.6 °F)
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/Oil Distribution:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	Gas explodes spontaneously when mixed with chloride dioxide.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials:	Oxidizers. Chlorine dioxide.
Hazardous Decomposition Products:	Carbon dioxide. Carbon monoxide.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE
Product Toxicity

Oral:	Not available.
Dermal:	Not available.
Inhalation:	Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Propane	74-98-6	Not available.	Not available.	Not available.
Ethane	74-84-0	Not available.	Not available.	Not available.
Propylene	115-07-1	Not available.	Not available.	86000 mg/m³ (rat); 4H
Butane	106-97-8	Not available.	Not available.	658000 mg/m³ (rat); 4H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation.

Target Organs: Skin. Eyes. Respiratory system. Central nervous system.

Symptoms (including delayed and immediate effects)

Inhalation:

May displace oxygen and cause rapid suffocation. Central nervous system depression can occur if product is present in concentrations that will reduce the oxygen content of air below 18 % (vol). Symptoms may include headache, lightheadedness, drowsiness, disorientation, vomiting and seizures. Unconsciousness and death may occur with severe oxygen deprivation. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Eye: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result.

Skin: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Symptoms of frostbite include change in skin colour to white or grayish-yellow. The pain after contact with liquid can quickly subside.

Ingestion: Not a normal route of exposure.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Respiratory system. Central nervous system.

Chronic Effects: Not available.

Carcinogenicity: Product is not classified as a carcinogen. See Component Carcinogenicity table below for information on individual components.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Propylene	A4	Group 3	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN1075, LIQUEFIED PETROLEUM GASES, 2.1

Class: 2.1

UN Number: UN1075

Packing Group: Not applicable.

Label Code:

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1075, LIQUEFIED PETROLEUM GASES, 2.1

Class: 2.1

UN Number: UN1075

Packing Group: Not applicable.

Label Code:

Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)

The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)
The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

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

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Propane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Ethane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Propylene	Not listed.	Not listed.	Not listed.	313	Not listed.	10000
Butane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000

State Regulations
Massachusetts
US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Propane	74-98-6	Listed.
Ethane	74-84-0	Listed.
Propylene	115-07-1	Listed.
Butane	106-97-8	Listed.

New Jersey
US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Propane	74-98-6	SHHS
Ethane	74-84-0	SHHS
Propylene	115-07-1	SHHS
Butane	106-97-8	SHHS

Note: SHHS = Special Health Hazard Substance

Pennsylvania
US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Propane	74-98-6	Listed.
Ethane	74-84-0	Listed.
Propylene	115-07-1	E
Butane	106-97-8	Listed.

Note: E = Environmental Hazard

California Prop 65: This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

Date of Preparation of SDS:	September 17, 2021
Version:	2.0
GHS SDS Prepared by:	**Deerfoot Consulting Inc.**
	Phone: (403) 720-3700

REVISION DATE OCTOBER 25,2018

SPILLFIX SAFETY DATA SHEET

This Safety Data Sheet (SDS) complies with the requirements of the U.S. Federal Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200, as updated in 2012), the American National Standards Institute (Z400.1, 1998), and equivalent state Standards. It has also been developed in accordance with the Canadian Workplace Hazardous Materials Standard and the United Nations Globally Harmonized System of Classification of Chemicals, as well as European Union requirements under REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances, per EC 1907/2006) and Directive 91/155/EC. Refer to Section 16 of this document for the definition of terms and abbreviations

SpillFix® GALUKU GROUP LIMITED | AMERICAN GREEN VENTURES

SPILLFIX SAFETY DATA SHEET

1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

1.1 PRODUCT IDENTIFIER

- *Product Name* — 13Gal/50L & 4Gal/15L SpillFix Industrial Organic Absorbent
  2.25Gal/9L SpillFix Spill Absorbent & Sweeping Compound
  10ft/3M & 5ft/1.5M SpillFix Industrial Absorbent Boom SOCs
- *Chemical Name/Class* — Coir Pith Fiber

1.2 RELEVANT IDENTIFIED USES OF THE MIXTURE OR USES ADVISED AGAINST

- *Identified Use* — Industrial liquid spill absorbent and sweeping compound
- *Uses Advised Against* — Refer to Section 6: (6.6)

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

- *Manufacturer* — Galuku Group Limited
- *Supplier* — American Green Ventures (US) Inc.
- *Address* — 180 Towerview Court Cary, North Carolina 27513
- *Business Phone* — (919) 535 8278

1.4 OTHER PERTINENT INFORMATION

- This product is sold for use as an industrial liquid/hazardous materials absorbent. This document has been developed to specifically address safety concerns affecting handling situations specific to the product alone (e.g., those associated with warehouses and other distribution workplaces). When used as an absorbent, the safety data sheets and other references for the spilled material should be reviewed as part of standard release clean-up plans.

2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

REGULATION	CLASSIFICATION
OSHA Hazard Communication (GHS)	Not applicable
Reach/CLP (GHS)	Not applicable
EU Directives 67/548/EEC; 1999/45/EC	Not applicable

2.2 LABEL ELEMENTS

- *OSHA/CLP – Based on Globally Harmonized System*

Symbol	Not applicable
Signal Word	Not applicable
Hazard Statement	Not applicable
Precautionary Statements	Not applicable

- *EC Directive Symbols, Risk and Safety Phrases*

Symbol	Not applicable
Risk Phrases	Not applicable
Safety Phrases	Not applicable

2: HAZARDS IDENTIFICATION (cont.)

2.3 OTHER PERTINENT DATA ON CHEMICAL AND PHYSICAL HAZARDS:

- ***Emergency Overview***

Physical Description	This is a brown organic substance. It is odorless.
Health Hazards	No significant health hazards are anticipated under typical circumstances of use or release response.
Fire Hazards	This product does not present a significant fire hazard.
Physical Hazards	Negligible under typical circumstances of use or reasonably anticipated emergency response situations.
Environmental Hazards	This product is not anticipated to cause adverse environmental effects.

- ***Hazardous Materials Identification System***

Health	*0*
Flammability	*0*
Physical Hazard	*0*
Protective Equipment	*NA*

HMIS PERSONAL PROTECTIVE EQUIPMENT RATING
Occupational use situations: Select the personal protective equipment appropriate to the volume of liquid released, location of the spill, and nature of the substance to be cleaned-up.

- *Canadian Regulatory Status* — This product is not classified as hazardous under Canadian Controlled Products regulations (SOR-88-66).
- *Canadian WHMIS Symbols* — Not applicable

SPILLFIX SAFETY DATA SHEET

3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 SUBSTANCES

- *Component* — Coir Pith Fiber
- *Cas Number* — Not Established
- *Einecs # EC* — Not Established
- *Class/Risk Phrases* — Not Established
- *% (w/w)* — 90-95%

3.2 MIXTURES

- *Component* — Water
- *Cas Number* — 7732-18-5
- *Einecs # EC* — 231-791-2
- *Class/Risk Phrases* — Not Established
- *% (w/w)* — Balance

SPILLFIX SAFETY DATA SHEET

4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

- *Eyes* — Flush with copious amounts of water for 15 minutes. "Roll" eyes during flush. Seek medical attention if irritation persists. Skin: Flush area with warm, running water. Inhalation: Obtain fresh air.
- *Ingestion* — Contact a Poison Control Center or physician for instructions.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS/ACUTE AND DELAYED

- *Acute* — The main hazard associated with this product in an occupational setting would be mechanical irritation of the eye, or slight irritation upon contact with the particulates. Inhalation of particulates can be irritating to the nose, throat, and other tissues of the respiratory system. Symptoms of exposure are generally alleviated when overexposure ends.
- *Chronic* — No long-term effects related to chronic exposures are anticipated from occupational use situations involving this product.
- *Target Organs* — Acute: Eyes, skin (mechanical irritation). Chronic: Not applicable

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- *Recommendations to Physicians* — Treat symptoms and eliminate overexposure.
- *Medical Conditions Aggravated* — No known medical conditions are anticipated to be aggravated
- *By Overexposure* — by occupational exposure to this product.

5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

- *Recommended Fire Extinguishing Media* — Water Spray, Water Jet, Dry Powder, Foam, Carbon Dioxide, Halon, or any other.
- *Unsuitable Fire Extinguishing Media* — None known

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

- *NFPA Flammability Classification* — Not flammable
- *Unusual Hazards in Fire Situations* — When involved in a fire, this material may produce irritating vapors and toxic gases (e.g., carbon monoxide, carbon dioxide).
- *Explosion Sensitivity to Mechanical Impact* — Not sensitive
- *Explosion Sensitivity to Static Discharge* — Not sensitive

5.3 ADVICE FOR FIREFIGHTERS

- No special hazards or requirements; use methods appropriate to type of fire and size of blaze.

SPILLFIX SAFETY DATA SHEET

6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

- *Note* — This material is for use as a spill absorbent material and/or sweeping compound. The following section refers only to accidental spills of this product alone. If SpillFix is being used as a universal absorbent, then the safety data sheet and other references pertinent to the released substances must be reviewed.
- *Response to Incidental Releases* — Personnel who have received basic chemical safety training can generally handle small-scale releases. Wear gloves and safety glasses when cleaning-up spills.
- *Response to Non-Incidental Releases* — Unused SpillFix is completely safe and harmless. Simply place back in container.
- *Response Procedures for any Release* — Carefully sweep up spilled material and place back in container
- *Note* — This product effectively absorbs an extensive list of materials – Full list shown in 6.6

6.2 ENVIRONMENTAL PRECAUTIONS

- *Environmental Precautions* — No precautions necessary, SpillFix is an environmentally safe natural organic material.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

- *Spill Response Equipment* — Broom/dust pan and/or shovel.

6.4 REFERENCES TO OTHER SECTIONS

- *Section 8* — For exposure levels and detailed personal protective equipment recommendations.
- *Section 13* — For waste handling guidelines.

6.5 USING PRODUCT AS UNIVERSAL LIQUID ABSORBENT

- *These steps should be followed when using this product as a liquid absorbent:*

1. Identify and isolate spill. Always follow workplace procedures for cleanup and disposal.
2. Apply SpillFix to perimeter of spill to stop from spreading.
3. Continue to apply SpillFix to center until spill is completely covered and no free liquid is visible.
4. Sweep with a stiff broom working over spill area to remove all surface oil. Dispose of in accordance of local and state regulations.

6: ACCIDENTAL RELEASE MEASURES (cont.)

6.6 EFFECTIVELY ABSORBS THE FOLLOWING TYPES OF MATERIALS:

- *Full strength:*

Acetaldehyde	Acetic Acid	Acetic Anhydride	Acetone
Acrylic Paint	Aluminum Hydroxide	Ammonium Hydroxide	Antifreeze
Aviation Fuel	Automotive Fluids	Barium Hydroxide	BBQ Sauce
Battery Acid	Bleach	Blood	Bodily Fluids
Boric Acid	Brake Fluid	Calcium Hydroxide	Car Wax
Calcium Hypochlorite	Carbon Black	Castor Oil	Chlorine Water
Chloroform	Citric Acid	Clorox (Bleach)	Coolant
Corn Oil	Cottonseed Oil	Cresol	Dairy Products
Degreasers	Detergents	Drilling Fluids	Enamel Paint
Ethylene Glycol	Ethylenediamine	Fabric Softeners	Ferric Chloride
Floor Wax	Formic Acid	Fruit Juice	Fuel Oil
Glycerol	Gorilla Glue	Grape Juice	Hydraulic Fluid
Hydrocarbon Fluids	Ice Cream	Italian Dressing	Juice
Ketchup	Latex Paint	Laundry Detergent	Linseed Oil
Liquid Polymers	Lubricating Oil	Magnesium Hydroxide	Milk
Mineral Oil	Motor Oil	Nitric Acid	Nutella Spread
Octane	Oil	Oil Paint	Olive Oil
Orange Juice	Paint	Paint Thinners	Paraffin
Petroleum Ether	Phenol	Phosphoric Acid	Polymers
Power Steering Fluid	Propylene Glycol	Ranch Dressing	Resins
Salad Dressing	Sauce	Silicone Oil	Softeners
Sodium Bicarbonate	Sodium Bisulfite	Sodium Chloride	Sodium Hydroxide
Solvents	Soup	Soy Bean Oil	Soy Milk
Spray Paint	Sucrose	Skydrol	Synthetic Motor Oil
Syrup	Tomato Sauce	Tannic Acid	Transformer Oil
Transmission Fluid	Turpentine	Urine	Water
Wine	Wood Stain	Xylene	

- *In Acceptable Dilutions:* (Concentrations shown are relevant to substances in industrial use.)

Hydrochloric Acid (45%)	Hypochlorite Solution (18%)
Hydrogen Peroxide (70%)	Peracetic Acid (15%)
Peroxide (70%)	Potassium Hydroxide (45%)
Sulfuric Acid (50%)	

- *Note* Before handling used material refer to the SDS (materials safety data sheet) for the substance to be absorbed.

- *Substances Non Listed Above*

  Please contact the manufacturer and/or distributor for information on SpillFix's ability to absorb substances not listed above. DO NOT use SpillFix as a substitute for safe handling practices of any chemical, or assume its suitability on substances not listed above.

SPILLFIX SAFETY DATA SHEET

7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

- *Hygiene Practices* — Keep out of reach of children. Follow good chemical hygiene practices. Do not smoke, drink, eat, or apply cosmetics while using the product for spill clean-up. Unused material (SpillFix) is harmless and safe to touch. Avoid contact with eyes.
- *Handling Recommendations* — Employees must be appropriately trained to use this product safely as needed.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- *Storage Recommendations* — Store in a cool dry place away from incompatible chemicals (See Section 10, Stability and Reactivity).
- *Storing Unused Material After Opening* — Keep tightly closed and store in a cool dry place away from incompatible chemicals.

SPILLFIX SAFETY DATA SHEET

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

- *U.S. National Exposure Limits*

Component	*ACGIH TLV*	*OSHA PEL (ppm)*	*NIOSH REL (ppm)*	*Other*
Coir Pith Fiber	NE	NE	NE	NE
Water	NE	NE	NE	NE

- *International Exposure Limits*

Component	*Federal Republic of Germany (DFG) Maximum Concentration Values in the Workplace (MAKs)*	*Other*
Coir Pith Fiber	NE	NE
Water	NE	NE

- *Biological Occupational Exposure Limits* — Not Established
- *Derived No Effect Level (DNEL)* — Not Established
- *Predicted No Effect Concentration (PNEC)* — Not Established

8: EXPOSURE CONTROLS/PERSONAL PROTECTION (cont.)

8.2 EXPOSURE CONTROLS

As Necessary, Refer to Reference Materials of Spilled Substance.
Otherwise, use the Following Guidelines:

- *Engineering Controls* — Use this product in well-ventilated environment. Safety showers, eye wash stations, and hand-washing equipment should be available, based on the chemical inventory specific to the facility.
- *Respiratory Protection* — None needed under routine circumstances of use or handling. A dust mask can be considered if inhalation of significant amounts of dusts/particulates could occur.
- *Hand Protection* — Nitrile, latex, or neoprene gloves should be used.
- *Eye Protection* — Splash goggles or safety glasses with side shield are recommended if contact with dusts/particulates from this product may occur.
- *Body Protection* — Protection appropriate for work situation (e.g., lab coat).

SPILLFIX SAFETY DATA SHEET

9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

a) APPEARANCE	Brown solid	k) VAPOR PRESSURE (mmHg @ 20°C):	Not applicable
b) ODOR	None	l) VAPOR DENSITY	Not applicable
c) ODOR THRESHOLD	None	m) RELATIVE DENSITY (water=1)	Not determined
d) pH	Not applicable	n) SOLUBILITY	Insoluble in water
e) MELTING POINT/ FREEZING POINT	Not applicable	o) PARTITION COEFFICIENT: NOCTANOL/ WATER	Not determined
f) INITIAL BOILING POINT AND BOILING RANGE	Not applicable	p) AUTO-IGNITION TEMPERATURE	Not applicable
g) FLASH POINT	Not applicable	q) DECOMPOSITION TEMPERATURE	Not determined
h) EVAPORATION RATE (water=1)	Not applicable	r) VISCOSITY	Not applicable
i) FLAMMABILITY	Not flammable	s) EXPLOSIVE PROPERTIES	Not applicable
j) UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	Not applicable	t) OXIDIZING PROPERTIES	Not an oxidizer

9.2 OTHER INFORMATION

- *VOC (less water & exempt)* — None.
- *Weight % VOC* — Not applicable.

10: STABILITY AND REACTIVITY

10.1 REACTIVITY

- Not reactive under typical conditions of use or handling.

10.2 CHEMICAL STABILITY

- Normally stable under standard temperatures and pressures.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

- This product is not self-reactive, water-reactive, or air-reactive.
- This product will not undergo hazardous polymerization.

10.4 CONDITIONS TO AVOID

- Avoid contact with incompatible chemicals.

10.5 INCOMPATIBLE MATERIALS

- Refer to 6.6 for extensive list of compatible materials that can be absorb by this product (For compatibility of materials not listed please contact manufacture).

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

- Products of thermal decomposition of this product can include carbon monoxide, carbon dioxide, and nitrogen oxides.

SPILLFIX SAFETY DATA SHEET

11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

- *Acute Toxicity* — There are no specific toxicity data are available for components of this product. This product is non-toxic by all routes of entry.

Degree of Irritation: Potentially mild mechanical irritation.

Sensitization: Not reported to have skin or respiratory sensitization effects.

Review of Acute Symptoms and Effects: See Section 2 (Hazards Information) and Section 4 (First-Aid Measures) for details.

EYES: Contact with product may cause mild mechanical eye irritation.

SKIN: Contact with product may cause mild mechanical skin irritation.

INHALATION: Contact with dusts may cause mild mechanical irritation of the mucous membranes of the nose, throat, and mouth.

INGESTION: Ingestion may cause a variety of health effects, as described in Section 4 (First-Aid Measures).

11.2 CHRONIC TOXICITY

Carcinogenicity Status: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be, or suspected to be, a carcinogen by the listed agency.

Chemical	*IARC*	*NTP*	*NIOSH*	*OSHA*	*Other*
Coir Pith Fiber	NO	NO	NO	NO	NO

Reproductive Toxicity Information: This product is not anticipated to cause adverse reproductive effects under typical circumstances of exposure under routine work situations.

11: TOXICOLOGICAL INFORMATION (cont.)

11.2 CHRONIC TOXICITY (cont.)

Mutagenic Effects	The components of this product are not reported to cause mutagenic effects under typical circumstances of occupational exposure.
Specific Target Organ Toxicity (Single Exposure)	Not applicable
Specific Target Organ Toxicity (Repeated Exposure)	Not applicable

- *OTHER INFORMATION*

Toxicologically Synergistic Products	None known

12: ECOLOGICAL INFORMATION

SPILLFIX SAFETY DATA SHEET

12.1 TOXICITY

- This product is derived from coconut husk. Based on available data, the pure product is not anticipated to be harmful to contaminated plants or animals.
- Based on available data, the pure product is not anticipated be harmful to contaminated aquatic plants or animals in the area immediately surrounding the release of the pure product.

12.2 PERSISTENCE AND DEGRADABILITY

- When released into the soil, the product is expected to biodegrade.
- Coir Fiber Pith (SpillFix) consists of 53% Lignin. The high lignin composition slows the decomposition of the biodegradable material. This allows the absorbed (and encapsulated) hydrocarbons and/or other chemicals to microbiologically decompose long before the coir material decomposes.

12.3 BIOACCUMULATIVE POTENTIAL

- It is not anticipated that this product will bioaccumulate or bioconcentrate significantly in the environment.

12.4 MOBILITY IN SOIL

- This product is not anticipated to be mobile in soil.

12.5 RESULTS OF PBT and vPvB ASSESSMENT

- No data available.

12.6 OTHER ADVERSE EFFECTS

- *Endocrine Disruptor Information:* No component is reported to be an endocrine disruptor.

12.7 ADDITIONAL ENVIRONMENTAL IMPACT INFORMATION

- SpillFix meets and exceeds Federal EPA leachate standards for hydrocarbon/petroleum products.
- SpillFix Passes the EPA's TCLP and TTLC testing.
- SpillFix encapsulates chemicals and will not leach or release back into the environment.

13: DISPOSAL CONSIDERATION

13.1 WASTE TREATMENT METHODS

- *Waste Handling Recommendations:* Prepare, transport, treat, store, and dispose of waste product according to all applicable local, U.S. State and U.S. Federal regulations, the applicable Canadian standards, or the appropriate standards of the nations of the European Community.
- *Incineration:* Used SpillFix containing hydrocarbons can be incinerated in accordance with local regulations.

13.2 DISPOSAL CONSIDERATIONS

- *EPA RCRA Waste Code:* Not applicable
- *European Waste Code:* Not applicable.

14: TRANSPORT INFORMATION

SPILLFIX SAFETY DATA SHEET

14.1/14.2/14.3/14.4 DANGEROUS GOODS BASIC DESCRIPTION AND OTHER TRANSPORT INFORMATION

- ***Department Of Transportation Hazardous Materials Shipping Regulations***

UN/NA Identification Number	Not hazardous, per US DOT regulations.
Proper Shipping Name	SpillFix Industrial Organic Absorbent
Hazard Classification	Not applicable.
Packing Group	Not applicable.
Label	Not applicable.
North American Emergency Response Guidebook (2012)	Not applicable.
Marine Pollutant Status	No component is designated as a DOT Marine Pollutant.

- *Canadian Transportation Information* This product is NOT regulated by Transport Canada as dangerous goods under Canadian transportation standards.
- *IATA Designation* This product is NOT regulated as dangerous goods by the International Air Transport Association.
- *IMO Designation* This product is NOT regulated as dangerous goods by the International Maritime Organization.

14.5 ENVIRONMENTAL HAZARDS

- None described, as related to transportation.

14.6 SPECIAL PRECAUTIONS FOR USERS

- Not applicable.

14.7 TRANSPORT IN BULK

- Not applicable.

15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE SUBSTANCE OR MIXTURE.

- ***Other Important U.S.. Regulations***

U.S. TSCA Inventory Status:	All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
CERCLA Reporting Requirements	Not applicable.
SARA Reporting Requirements	Not applicable.
SARA Section 311/312 For Product	Not applicable.
California Safe Drinking Water Act (Proposition 65) Status	Not applicable.

- ***International Regulations Canadian DSL/NDSL Inventory Status*** — All ingredients of this product are listed or are excluded from inventory reporting requirements.

Canadian environmental Protection Act (CEPA) Priorities Substances Lists:	The components of this product are not on the CEPA Priorities Substances Lists.
German Water Hazard Classification:	1 (low hazard to waters).

15.2: CHEMICAL SAFETY ASSESSMENT

- *Assessment* — Chemical free natural organic material.

16: OTHER INFORMATION

16.1 INDICATION OF CHANGE.

- *Change Indicated:* — Update of OSHA Hazard Communication Standard (29 CFR 1910.1200); Format changes.
- *Original Date of Issue* — October 2013.
- *Dates of Updates* — February 8, 2018.

16.2 KEY LITERATURE REFERENCES AND SOURCES FOR DATA

- Safety Data Sheets For Component Products
- Regulations (EC) No 1907/2006, 1272/2008 & 453/2010 of the European Parliament and of the Council
- Federal OSHA Hazard Communication Standard: 29 CFR 1910.1200
- ESIS -European Chemical Substances Information System http://esis.jrc.ec.europa.eu/

16.3 CLASSIFICATION AND PROCEDURE USED TO DERIVE THE CLASSIFICATIONS FOR MIXTURES

- *Classification: Section 2* (Hazards Information) provides all relevant classification information used for this product. The assignments were based on data available for the component products, calculations, expert judgment, and weight of evidence.

SPILLFIX SAFETY DATA SHEET

16: OTHER INFORMATION (cont.)

16.4 ABBREVIATIONS AND ACRONYMS.

ALL SECTIONS: OSHA: U.S. Federal Occupational Safety and Health Administration. WHMIS: Canadian Workplace Hazardous Materials Standard. GHS: Globally Harmonized System of Classification of Chemical Substances. REACH: European Union regulation, Registration, Evaluation, Authorization and Restriction of Chemical substances. SECTION 2: CAS Number: Chemical Abstract Service Number, which is used by the American chemical Society to uniquely identify a chemical. EINECS: European Inventory of Existing Commercial Substances. SECTION 3: HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATING: This is a rating system used by industry to summarize physical and health hazards to chemical users and was originally developed by the National Paint and Coating Association. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard. SECTION 5: NFPA: National Fire Protection Association. NFPA FLAMMABILITY CLASSIFICATION: The NFPA uses the flash point (Fl.P.) and boiling point (BP) to classify flammable or combustible liquids. Class IA: Fl.P. below 73°F and BP below 100°F. Class IB: Fl.P. below 73°F and BP at or above 100°F. Class IC: :Fl.P. at or above 73°F and BP at or above 100°F. Class II: : Fl.P. at or above 100°F and below 140°F. Class IIIA: Fl.P. at or above 140°F and below 200°F. Class IIIB: Fl.P. at or above 200°F. NFPA HAZARDOUS MATERIALS RATING: This is a rating system used to summarize physical and health hazards to firefighters. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard. SECTION 8: NE: Not established. ACGIH: American Conference of Government Industrial Hygienists; TWA: Time-Weighted Average (over an 8-hour work day); STEL: Short Term Exposure Limit (15 minute average, no more than 4-times daily and each exposure separated by one-hour minimally); C: Ceiling Limit (concentration not to be exceeded in a work environment). PEL: Permissible Exposure Limit. NIOSH: National Institute of Occupational Safety and Health; REL: Recommended Exposure Limit; IDLH: Immediately Dangerous to Life and Health Concentrations. Note: In July 1992, a court ruling vacated the more protective PELs set by OSHA in 1989. Because OSHA may enforce the more protective levels under the "general duty clause", both the current and vacated levels are presented in this document. ppm: Parts per Million. mg/m3: Milligrams per cubic meter. mppcf: Millions of Particles per Cubic Foot. BEI: Biological Exposure Limit. EL: Exposure Limit (United Kingdom). Federal Republic of Germany (DFG) Maximum Concentration Values in the Workplace (MAKs) SECTION 9: pH: Scale (0 to 14) used to rate the acidity or alkalinity of aqueous solutions. For example, a pH value of 0 indicates a strongly acidic solution, pH of 7 indicates a neutral solution, and a pH value of 14 indicates an extremely basic solution. FLASH POINT: Temperature at which a liquid generates enough flammable vapors so that ignition may occur. AUTOIGNITION TEMPERATURE: Temperature at which spontaneous ignition occurs. LOWER EXPLOSIVE LIMIT (LEL): The minimal concentration of flammable vapors in air which will sustain ignition. UPPER EXPLOSIVE LIMIT (UEL): The maximum concentration of flammable vapors in air which will sustain ignition._: Approximately symbol. SECTION 11: CARCINOGENICITY STATUS: NTP: National Toxicology Program. IARC: International Agency for Research on Cancer. REPRODUCTIVE TOXICITY INFORMATION: Mutagen: Substance capable of causing chromosomal damage to cells. Embryo-toxin: Substance capable of damaging the developing embryo in an overexposed female. Teratogen: Substance capable of damaging the developing fetus in an overexposed female. Reproductive toxin: Substance capable of adversely affecting male or female reproductive organs or functions. TOXICOLOGY DATA: LDxxor LCxx: The Lethal Dose or Lethal Concentration of a substance which will be fatal to a given percentage (xx) of exposed test animals by the designate route of administration. This value is used to access the toxicity of chemical substances to humans. TDxxor TCxx: The Toxic Dose or Toxic Concentration of a substance which will cause an adverse effect to a given percentage (xx) of exposed test animals by the designate route of administration. NOAEL: No Observable Effect Level. SECTION 13: RCRA: Resource Conservation and Recovery Act. The regulations promulgated under this act under Act are found in 40 CFR, Sections 260 ff, and define the requirements of hazardous waste generation, transport, treatment, storage, and disposal. EPA RCRA Waste Codes: Defined in 40 CFR Section 261. SECTION 15: CERCLA: Comprehensive Environmental Response Compensation and Liability Act (a.k.a. "Superfund") and SARA: (Superfund Amendment and Reauthorization Act). The regulations promulgated under this Act are located under 40 CFR 300 ff. and provide "community right-to-know" requirements. DSL/NDSL: Canadian Domestic Substances and Non-Domestic Substances Lists.

SPILLFIX SAFETY DATA SHEET

SAFETY DATA SHEET

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

1.1 Product identifier

Product name **Castrol Brake Fluid DOT 4**

Product code 466630-X101

SDS # 466630

Product type Liquid.

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

Identified uses
General use of lubricants and greases in vehicles or machinery-Industrial General use of lubricants and greases in vehicles or machinery-Professional

Use of the substance/ mixture Brake fluids.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

1.3 Details of the supplier of the safety data sheet

Supplier

BP Southern Africa (Pty)Ltd
199 Oxford Road
Oxford Parks
Dunkeld, 2196
South Africa

Product Technical Helpdesk: 0800 111 551

E-mail address MSDSadvice@bp.com

1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER

Tygerberg Poison Centre: 0861 555 777
Carechem: +27 21 300 2732 (24/7)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Repr. 2, H361fd

See Section 16 for the full text of the H statements declared above.

See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

2.2 Label elements

Hazard pictograms

Signal word Warning

Hazard statements H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements

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

Prevention P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.

Response P308 + P313 - IF exposed or concerned: Get medical attention.

Storage P405 - Store locked up.

Disposal P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

SECTION 2: Hazards identification

Hazardous ingredients tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

Supplemental label elements Not applicable.

2.3 Other hazards

Other hazards which do not result in classification Defatting to the skin.

Experimental data on one or more of the components has been used to determine all or part of the hazard classification of this product.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product definition Mixture

polyethylene glycol Proprietary performance additives.

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
tris[2-[2-(2-methoxyethoxy) ethoxy]ethyl] orthoborate	REACH #: 01-2119462824-33 EC: 250-418-4 CAS: 30989-05-0	≥25 - ≤50	Repr. 2, H361fd	-	[1]
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy) ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	REACH #: 01-2119475115-41 01-2119531322-53 EC: 907-996-4 CAS: -	≥10 - ≤25	Eye Dam. 1, H318	Eye Dam. 1, H318: C ≥ 30% Eye Irrit. 2, H319: 20% ≤ C < 30%	[1]
2,2' -oxybisethanol	REACH #: 01-2119457857-21 EC: 203-872-2 CAS: 111-46-6 Index: 603-140-00-6	≤10	Acute Tox. 4, H302	ATE [Oral] = 500 mg/kg	[1]
Di-isopropanolamine	REACH #: 01-2119475444-34 EC: 203-820-9 CAS: 110-97-4 Index: 603-083-00-7	≤3	Eye Irrit. 2, H319	-	[1]

See Section 16 for the full text of the H statements declared above.

[1] Substance classified with a health or environmental hazard

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation If inhaled, remove to fresh air. Get medical attention. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention.

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

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Potential acute health effects

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion Diethylene glycol: Ingestion of diethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

Skin contact Defatting to the skin. May cause skin dryness and irritation.

SECTION 4: First aid measures

Eye contact Not classified as an eye irritant. Based on data available for this or related materials.

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

Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Eye contact Potential risk of transient stinging or redness if accidental eye contact occurs.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.
In case of inhalation of decomposition products in a fire, symptoms may be delayed.
The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media Do not use water jet. The use of a water jet may cause the fire to spread by splashing the burning product.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
nitrogen oxides (NO, NO_2 etc.)

5.3 Advice for firefighters

Special precautions for fire-fighters No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

For emergency responders Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

6.2 Environmental precautions Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 5 for firefighting measures.
See Section 8 for information on appropriate personal protective equipment.
See Section 12 for environmental precautions.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep away from heat and direct sunlight. 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. Store and use only in equipment/containers designed for use with this product. Do not store in unlabelled containers.

Not suitable

Prolonged exposure to elevated temperature

7.3 Specific end use(s)

Recommendations

See section 1.2 and Exposure scenarios in annex, if applicable.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Recommended monitoring procedures

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Biological exposure indices

Product/ingredient name	Exposure indices

No exposure indices known.

Derived No Effect Level

No DNELs/DMELs available.

Predicted No Effect Concentration

No PNECs available

8.2 Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and

appropriate standards. For further information contact your national organisation for standards. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

General Information:

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Recommended: Butyl gloves.
Neoprene gloves.
Breakthrough time:

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type.
Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.
If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

Recommended breakthrough times as above.
It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

Glove Thickness:

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.
Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

• Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

• Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

SECTION 8: Exposure controls/personal protection

Skin and body

Use of protective clothing is good industrial practice.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Refer to standards:

Respiratory protection: EN 529
Gloves: EN 420, EN 374
Eye protection: EN 166
Filtering half-mask: EN 149
Filtering half-mask with valve: EN 405
Half-mask: EN 140 plus filter
Full-face mask: EN 136 plus filter
Particulate filters: EN 143
Gas/combined filters: EN 14387

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state Liquid.

Colour Yellow.

Odour Characteristic.

Odour threshold Not available.

pH 7.5 to 9 [Conc. (% w/w): 100%]

Melting point/freezing point <-70°C (<-94°F)

Initial boiling point and boiling range >260°C (>500°F)

Flash point Closed cup: >125°C (>257°F) [Pensky-Martens]

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Lower and upper explosion limit Lower: 1.5%

Vapour pressure <0.13 kPa (<1 mm Hg) [20°C (68°F)]

Relative vapour density Not available.

Relative density Not available.

Density >1000 kg/m³ (>1 g/cm³) at 20°C

Solubility(ies)

Media	Result
water	Miscible in water.

Miscible with water Yes.

Partition coefficient: n-octanol/water Not applicable.

Auto-ignition temperature

Ingredient name	°C	°F	Method
ethanol, 2-methoxy-, manufacture of, by-products from	210	410	
2-[2-(2-butoxyethoxy)ethoxy]ethanol	202	395.6	DIN 51794
2,2' -oxybisethanol	229	444.2	DIN EN 14522-S
2-(2-(2-methoxyethoxy)ethoxy) ethanol	210	410	
2,2'-(ethylenedioxy)diethanol	347	656.6	

Decomposition temperature Not available.

SECTION 9: Physical and chemical properties

Viscosity Kinematic: 16 mm^2/s (16 cSt) at 20°C

Explosive properties Not available.

Oxidising properties Not available.

Particle characteristics

Median particle size Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerisation will not occur.

10.4 Conditions to avoid Avoid all possible sources of ignition (spark or flame).

10.5 Incompatible materials Reactive or incompatible with the following materials: oxidising materials.

10.6 Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Castrol Brake Fluid DOT 4	5555.6	N/A	N/A	N/A	N/A
2,2' -oxybisethanol	500	N/A	N/A	N/A	N/A
Di-isopropanolamine	N/A	16000	N/A	N/A	N/A

Information on likely routes of exposure Routes of entry anticipated: Dermal, Inhalation, Eyes.

Potential acute health effects

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion Diethylene glycol: Ingestion of diethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Eye contact Not classified as an eye irritant. Based on data available for this or related materials.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

Ingestion No specific data.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Eye contact No specific data.

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

Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Eye contact Potential risk of transient stinging or redness if accidental eye contact occurs.

Potential chronic health effects

General May cause damage to organs through prolonged or repeated exposure. (kidney)

SECTION 11: Toxicological information

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Developmental effects	Suspected of damaging the unborn child. Birth defects and decreased fetal weight have been observed in laboratory animals fed diethylene glycol in large amounts repeatedly during pregnancy.
Fertility effects	Suspected of damaging fertility.

11.2 Information on other hazards

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Environmental hazards	Not classified as dangerous

12.2 Persistence and degradability

Expected to be biodegradable.

12.3 Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC})	Not available.
Mobility	Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

Other ecological information	Miscible in water.
12.7 Other adverse effects	No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal	Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.
Hazardous waste	Yes.

Packaging

Methods of disposal	Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.
Special precautions	This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
References	Commission 2014/955/EU Directive 2008/98/EC

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-

SECTION 14: Transport information

14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 Special precautions for user Not available.

14.7 Maritime transport in bulk according to IMO instruments Not available.

SECTION 15: Regulatory information

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

Other regulations

REACH Status For the REACH status of this product please consult your company contact, as identified in Section 1.

United States inventory (TSCA 8b) All components are active or exempted.

Australia inventory (AIIC) All components are listed or exempted.

Canada inventory At least one component is not listed in DSL but all such components are listed in NDSL.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (CSCL) All components are listed or exempted.

Korea inventory (KECI) At least one component is not listed.

Philippines inventory (PICCS) All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI) All components are listed or exempted.

15.2 Chemical safety assessment A Chemical Safety Assessment has been carried out for one or more of the substances within this mixture. A Chemical Safety Assessment has not been carried out for the mixture itself.

SECTION 16: Other information

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]

SECTION 16: Other information

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SADT = Self-Accelerating Decomposition Temperature
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVCB = Complex hydrocarbon substance
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative
Varies = may contain one or more of the following 64741-88-4 / RRN 01-2119488706-23, 64741-89-5 / RRN 01-2119487067-30, 64741-95-3 / RRN 01-2119487081-40, 64741-96-4/ RRN 01-2119483621-38, 64742-01-4 / RRN 01-2119488707-21, 64742-44-5 / RRN 01-2119985177-24, 64742-45-6, 64742-52-5 / RRN 01-2119467170-45, 64742-53-6 / RRN 01-2119480375-34, 64742-54-7 / RRN 01-2119484627-25, 64742-55-8 / RRN 01-2119487077-29, 64742-56-9 / RRN 01-2119480132-48, 64742-57-0 / RRN 01-2119489287-22, 64742-58-1, 64742-62-7 / RRN 01-2119480472-38, 64742-63-8, 64742-65-0 / RRN 01-2119471299-27, 64742-70-7 / RRN 01-2119487080-42, 72623-85-9 / RRN 01-2119555262-43, 72623-86-0 / RRN 01-2119474878-16, 72623-87-1 / RRN 01-2119474889-13

History

Date of issue/ Date of revision	07/07/2023.
Date of previous issue	27/09/2021.
Prepared by	Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	466630-X101
Product name	Castrol Brake Fluid DOT 4

Section 1: Title

Short title of the exposure scenario	General use of lubricants and greases in vehicles or machinery - Industrial
List of use descriptors	**Identified use name:** General use of lubricants and greases in vehicles or machinery-Industrial **Process Category:** PROC01, PROC02, PROC08b, PROC09 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04, ERC07 **Specific Environmental Release Category:** ATIEL-ATC SPERC 4.Biv1
Processes and activities covered by the exposure scenario	Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other conditions affecting workers exposure:	Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented

Contributing scenarios: Operational conditions and risk management measures

General measures (Reproductive toxin):

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

General measures applicable to all activities:
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Avoid direct eye contact with product also via contamination on hands.

General exposures (closed systems):
No other specific measures identified.

Initial factory fill of equipment Use in contained systems:
No other specific measures identified.

Initial factory fill of equipment Open systems:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out operation for more than 4 hours.

Operation of equipment containing engine oils and similar Use in contained systems:

No other specific measures identified.

Equipment cleaning and maintenance:
Drain down system prior to equipment break-in or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Equipment cleaning and maintenance Operation is carried out at elevated temperature (> 20°C above ambient temperature):
Drain down and flush system prior to equipment break-in or maintenance. Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely. Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

No exposure scenario is presented because the product is not classified for the Environment

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	No exposure scenario is presented because the product is not classified for the Environment

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4: Guidance to check compliance with the exposure scenario

Environment	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.ATIEL.org/REACH_GES
Health	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	466630-X101
Product name	Castrol Brake Fluid DOT 4

Section 1: Title

Short title of the exposure scenario	General use of lubricants and greases in vehicles or machinery - Professional
List of use descriptors	**Identified use name:** General use of lubricants and greases in vehicles or machinery-Professional **Process Category:** PROC01, PROC02, PROC08a, PROC08b, PROC20 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b **Specific Environmental Release Category:** ESVOC SpERC 9.6b.v1
Processes and activities covered by the exposure scenario	Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
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Frequency and duration of use:	Covers daily exposures up to 8 hours
Other conditions affecting workers exposure:	Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented

Contributing scenarios: Operational conditions and risk management measures

General measures (Reproductive toxin):

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

General measures applicable to all activities:
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product also via contamination on hands.

Operation of equipment containing engine oils and similar Use in contained systems:
No other specific measures identified.

Material transfers Non-dedicated facility:
Avoid carrying out activities involving exposure for more than 4 hours per day. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Equipment cleaning and maintenance Dedicated facility:
Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

No exposure scenario is presented because the product is not classified for the Environment

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	No exposure scenario is presented because the product is not classified for the Environment

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4: Guidance to check compliance with the exposure scenario

Environment	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.ATIEL.org/REACH_GES
Health	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

SPILL CONTIGENCY MANAGEMENT PLAN:

LUPIN MINE WINTER ACCESS ROAD PROJECT

December 2025

Emergency Contact Information

Organization	Contact	Location	Telephone/Radio
RTL (Road Building Contractor)	Dan Columbus	NWT	780-893-4947
Alkane Resources	Felix Mensah-Yeboah, Director	British Columbia	604-765-8795
Falkirk Environmental Consulting	Kellie Leedham, Project Manager	British Columbia	403-808-1534
JDS	Darren Kress, Site Project Manager	NWT	204-558-6023
NT-NU Spill Centre	Inspector	Yellowknife	867-767-9188
Government of Northwest Territories	Resource Management Officer	Kugluktuk	867-982-4306
Crown-Indigenous Relations and Northern Affairs	Field Operations	Iqaluit	867-975-4295
Mackenzie Valley Land and Water Board	Regulatory Specialist	Yellowknife	867-766-7464
Nunavut Water Board	Licencing Department	Gjoa Haven	867-360-6338

Plain Language Summary

This Plan describe spill response actions to safely manage and clean a spill of fuel or other hazardous material while building and using the winter road from Lac de Gras to Lupin.

Revision History

Revision #	Date	Section	Summary of Changes	Author
1	Apr 2024	All	New document	N. McLaren
2	November 2025	All	Changes made to accommodate comments made during application review pertaining to: • Roles and responsibilities (2.0) • Product Inventory (3.0) • Spill kit contents (4.5) • Response procedures (4.0) • Safety Data Sheets (Appendix C)	K Leedham (Falkirk Environmental Consultants)

CONTENTS

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APPENDICES

1. INTRODUCTION

A spill is an unplanned or uncontrolled release of a regulated or hazardous material, either as a solid, liquid or gas. Spills associated with Lupin Mine Inc. (Lupin Mine) Lupin Winter Access Road (the Project) may occur along the winter road route either on ice or on a portage overland. Regardless of the type or quantity of material involved, all work areas must implement measures to reduce the potential for spills and have an action plan for responding to spills. This Spill Contingency Plan (Plan) describes methods for preventing and responding to spills during the Project and considers the guidance provided in the various documents listed in Table 1-1.

1.1 SCOPE

The purpose of the Project is to construct and operate a portion of the Tibbitt to Contwoyto Winter Road (TCWR) route from the Ekati Mine turnoff on Lac de Gras in the Northwest Territories (NT; Lac de Gras) to the Lupin Mine in Nunavut (NU; Lupin) to mobilize and demobilize equipment and supplies that may be used for ongoing reclamation of Lupin in the Kitikmeot Region of Nunavut (the Project).

The Project includes transportation only of equipment and supplies such as bulk fuel, lime, and explosives to facilitate reclamation of the Lupin Mine. Materials storage, other than supplies that may be housed in the emergency shelter, is outside of the scope of the Project.

This Plan is effective for the duration of the land use operations, commencing upon approval of this Plan and effective through winter road construction, operations, and closure activities for a period of up to five years or as otherwise permitted.

Table 1-1: Relevant Guidance Documents Including Legislation, Permits and Licences

Document	Authority
Contingency Planning and Spill Reporting in Nunavut: A guide to the new regulations.	Government of Nunavut
Environmental Guidelines for the Construction, Maintenance and Closure of Winter Roads in the Northwest Territories (1993)	Government of Northwest Territories
A Guide to the Spill Contingency Planning and Reporting Regulations (2011)	Government of Northwest Territories
Nunavut Water Nunavut Surface Rights Tribunal Act (2002) and *Nunavut Water Regulations* (2013)	Indigenous and Northern Affairs Canada
Territorial Lands Act (1985) and *Land Use Regulations* (2016)	Indigenous and Northern Affairs Canada
Mackenzie Valley Resource Management Act (1998)	Government of Canada
Northwest Territories Lands Act (2014)	Government of Northwest Territories
Northwest Territories Lands Use Regulations (2014)	Government of Northwest Territories
Northwest Territories Waters Regulations (2014)	Government of Northwest Territories
Environmental Protection Act (1988)	Government of Northwest Territories
Waters Act (2014)	Government of Northwest Territories

Document	Authority
Spill Contingency Planning and Reporting Regulations (1993)	Government of Northwest Territories, Nunavut
Canadian Environmental Protection Act (1999)	Environment and Climate Change Canada
Environmental Emergency Regulations (2003)	Environment and Climate Change Canada
Transportation of Dangerous Goods Act (1992)	Transport Canada
Transportation of Dangerous Goods Regulations (2012)	Transport Canada
Hazardous Products Act (1985)	Health Canada
Canada Occupational Safety and Health Regulation (1986)	Employment and Social Development Canada

1.2 OBJECTIVES

Lupin Mine strives to meet and exceed best management practices regarding materials handling, however, it is recognized that accidental spills and unplanned releases may occur. Accordingly, the objective of this Plan is to:

- Ensure employees and contractors have adequate information to respond to spills in an effective manner; and
- Outline appropriate spill response measures to ensure personnel safety and environmental protection.

1.3 SITE DESCRIPTION

The Project occurs along an existing winter road route established in the 1970's and since used intermittently to service the Lupin Mine and the Jericho Mine (the Winter Road). The Winter Road route predominantly traverses lakes, with few portages where the road occurs overland (Figure 1-1). Of the 213 km, 95 km occur in Northwest Territories and 118 km occur in Nunavut. Seven (7) portages occur in Northwest Territories and there is one (1) portage in Nunavut.

The Winter Road occurs entirely above the tree line, with overland portions traversing the barren lands of the Southern Arctic Ecozone and the Tundra Shield Low Arctic Ecoregion, within the Slave Geologic province. Portages generally follow low-lying terrain found between lakes along the road route (EBA 2001, GNWT 2012).

The Winter Road is constructed and accessed in mid- to late-winter only. At this time, ground is frozen and snow covered, and ice thickness on lakes is up to 2 m thick.

1.4 PLAN MANAGEMENT

This Plan is intended to fulfill requirements associated with the water licence and land use licences and permits as well as existing legislation. The Plan will be updated to maintain a current contact list, as needed.

The Plan will be reviewed annually by the Project Manager and updated as needed. When material changes occur, the updated document will be issued externally as needed.

1.5 PLAN IMPLEMENTATION

This Plan is effective upon approval and is valid throughout all phases of the Project.

The Project Manager or designate is responsible for Plan implementation.

A copy of this Plan will be maintained by the Project Manager during construction and maintenance of the winter road.

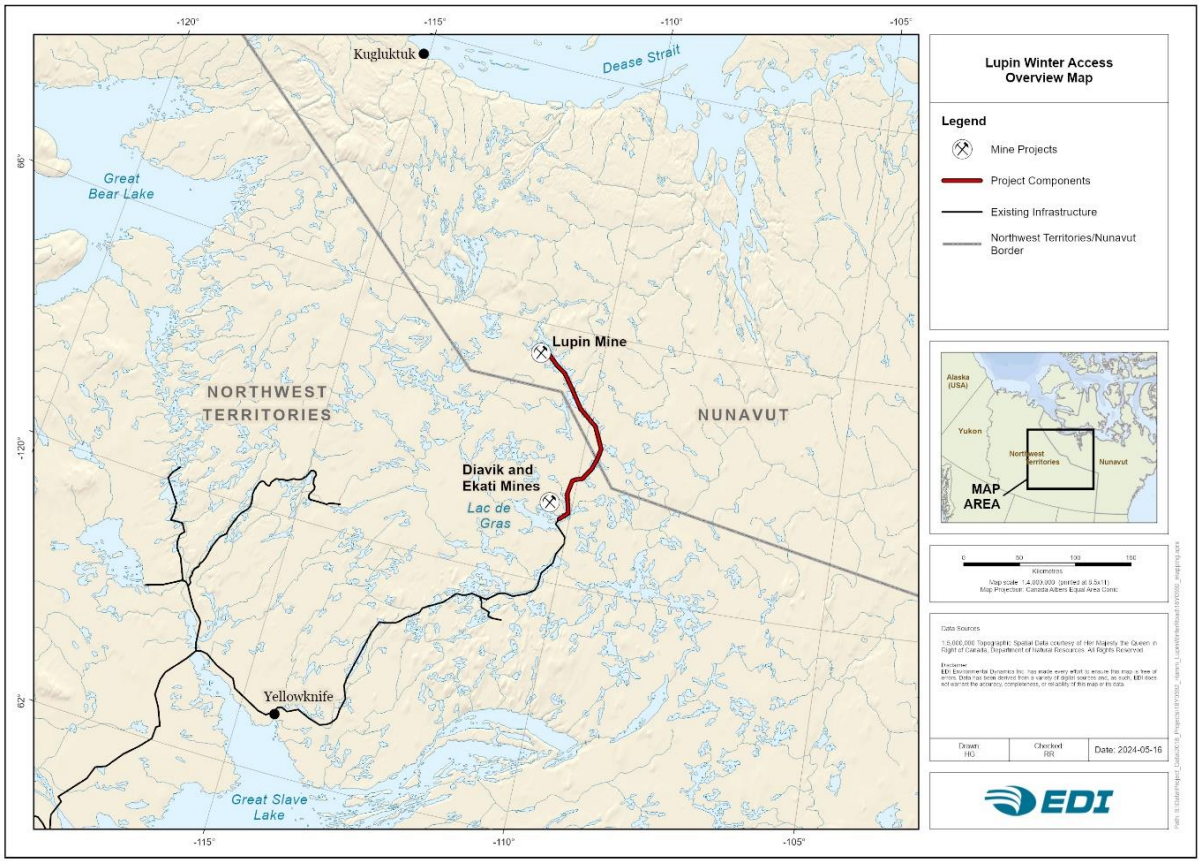

Figure 1-1: Lupin Mine Winter Road Location

2. ROLES AND RESPONSIBILITIES

Lupin Mine is responsible for activities associated with winter access to the Lupin Mine, including implementation and management of this Plan, and directing, documenting, and reporting pertaining to closure activities.

Lupin Mine's contact information is provided below.

Lupin Mines Incorporated
c/o Alkane Resources.
100 King Street West, 1 First Canadian Place, Suite 3400, Toronto, ON M5X 1A4

Contact:

Felix Mensah-Yeboah, Alkane
Phone: (604) 765-8795
Email: felix.mensah-yeboah@alkres.com

Kellie Leedham, Falkirk Environmental
Phone: (403) 808-1534
Email: kellie@falkirk.ca

2.1 STAFF, CONTRACTORS, SUPPLIERS, AND VENDORS

All personnel conducting activities on site, including staff, contractors, suppliers and visitors, are required to implement this Plan as it pertains to their activities on site. Specifically, these responsibilities include:

- Taking all necessary steps to minimize the chance of spills when working with materials that may pose a risk to worker health and the environment;
- Cooperating with your supervisor and/or Lupin Mine management to implement a spill prevention program;
- Carrying out only those duties and tasks that you are experienced at and trained to perform;
- Where there is uncertainty, asking questions and bring concerns to the attention of your supervisor when working with products that pose potential environmental and health risks;
- Responding to spills for which you are responsible or discover, and for which you have the requisite training and equipment; and
- Reporting all spills, regardless of size, to your supervisor or Lupin Mine management in a timely manner.

2.2 MANAGERS AND SUPERVISORS

Managers and supervisors have a responsibility to ensure that staff, contractors, consultants, and visitors have been trained in spill response expectations and procedures. Additional supervisor and manager responsibilities include:

- Maintaining a no blame work environment in initiating a spill response and related follow-up actions;
- Ensuring site-specific and material-specific training is provided to all departments and staff;
- Ensuring there are appropriate and sufficient spill response supplies in work area for the hazard characteristics and quantities of materials handled or transported;
- Provide assistance in response to chemical spills including the coordination of additional response personnel or equipment;

- Maintain records regarding inspections, personnel training, emergency equipment testing and spill kit maintenance; and
- Contact appropriate government agencies and emergency services where appropriate.

3. SPILL PREVENTION

Successful spill prevention is based on safe handling and transport of materials. Appropriate training based on level of responsibility will be provided for employees and road building contractors will be provided prior to construction.

3.1 PRODUCT INVENTORY

The identification and proper storage of potentially hazardous wastes for the project is an essential component of properly managing components of spill response. The following section describes storage of hazardous and potentially hazardous wastes to minimize the need for spill response.

3.1.1 Petroleum and Chemical Products

Table 3-1 provides a list of materials expected to be transported along the winter road. Note that products are not stored on site.

Should the need for temporary storage arise, such in the event of an emergency response, secondary containment will be established, and the inspector will be notified.

Safety Data Sheets (SDS) for the products below are included in Appendix C.

Table 3-1: Estimated Quantities of Petroleum and Chemical Products for the Project

Material	Estimated Amount	Container
ANFO	10,400 kg	Bags or sticks, on bulk haul trucks
Diesel	6 units	450 L truck-mounted tidy tanks
	1,500,000	Bulk haul trucks
	Up to 5	210 L drums in secondary containment, in emergency shelter
Gasoline	10 units	50 L jerry cans
Lime	40,000 kg	Bulk haul trucks
Propane	Up to 5 units	100 lb cylinders, in emergency shelter
Spent spill response materials	Various	205 L drums or lined mega bags
Various lubricants	5 units	5 gal pails
	40,000 L	Bulk haul trucks

3.1.2 Used Oil and Waste Fuel

Used oil and filters from vehicle maintenance and waste fuel will be managed in accordance with the

Used Oil and Waste Fuel Management Regulation (NWT, 2004). Storage of used oil and waste from fuel or waste fuel will be stored at the camp facility until the end of the season, when they will be back-hauled to Yellowknife for final disposal at KBL.

- Storage will occur in a container that was manufactured for the purpose of storing petroleum products. Such containers can be easily inspected, tightly sealed, closed and handled to prevent leakages or spill and will be
- Storage in an area where access is controlled and monitored.
- Storage containers and areas will be labelled according to WHIMIS.

3.1.3 Antifreeze (and other chemicals)

Antifreeze will be stored in accordance with the NWT Guideline for the Management of Waste Antifreeze (1998). Storage best management practices include:

Antifreeze storage will include:

- Storage in containers (preferably originals) that are sound, sealed and not damaged or leaking and will be sealed or closed at all times.
- Waste antifreeze will NEVER be stored with food or in used food containers such as bottles or cans.
- Storage in an area where access is controlled and monitored.
- Storage containers and areas will be labelled according to WHIMIS.

3.2 Material Handling and Disposal

Material handling during the Project will be minimal as most materials will be transported along the Winter Road, with loading and unloading to occur at separately permitted facilities. Instances where materials may be handled includes during a spill response or vehicle and equipment refuelling during Construction. Considerations for proper material handling include:

- Conduct refueling and equipment repair in a designated area within secondary containment or utilizing a drip tray;
- Use equipment or seek assistance when transporting heavy or awkward containers;
- Use funnels and spill containment trays when pouring or transferring chemicals from one container to another; and
- Utilize proper PPE when handling hazardous materials.

Disposal is limited to the disposal of spent spill response materials. Should a spill and related cleanup occur, spend response materials will be backhauled for proper disposal off site.

4. SPILL RESPONSE

The nature of a spill response will vary depending upon the situation, the material spilled and location of the spill and the spill receiving environment. In all spill response scenarios, the following steps should be taken to ensure employee safety and environmental protection are maintained:

1. Ensure your own safety and the safety of your coworkers by:
    a. Stop what you are doing;
    b. Stay clear of the spill;

c. Warn others nearby,
d. Shut down nearby equipment;

2. If required, and if it is safe to do so, assist injured or contaminated persons;
3. Assess the situation. Notify and report, as needed:

   a. Emergency

      (i) if the spill poses a significant risk to persons, property or the environment, call for help and contact your supervisor or the Project Manager immediately;

   b. Non-emergency: proceed with appropriate spill response;

4. Consult the Safety Data System (SDS) sheets for exposure risk;
5. Put on appropriate personal protective equipment (PPE; gloves, safety glasses, apron, footwear);
6. Contain the spill as outlined in the following sections;
7. Label and prepare containers of waste and spent spill response materials appropriately;
8. Conduct spill reporting as outlined in Section 5;
9. Where required, participate in incident investigations and follow-up measures.

Reportable Spill Volumes are references in Appendix B, as per NT-NU SPILL REPORT. OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS (2024)

4.1 Spills to Snow

In the event of a spill to snow:

- If flowing fluid, construct an ice berm or barrier downslope of the spill by compacting snow and spraying with water (if conditions permit) or use synthetic, impervious sheeting;
- Compact snow around the perimeter of the spill area;
- Locate the low point of the spill area and clear channels in the snow towards this low point, to allow free product to flow into the low point;
- Recover free product through manual or mechanical means including shovels, heavy equipment and pumps, or if approved, combust in situ;
- Absorb petroleum residue with synthetic sorbent socks, pillows, pads, or granular materials;
- Mechanically recover all contaminated snow and ice.

4.2 Spills to Ice

In the event of a spill to ice:

- Follow procedures for a spill to snow.

If materials penetrate and are under the ice:

- Drill holes through ice using ice auger to locate fuel/petroleum product;
- Once detected, cut slots in the ice using chain saws and remove ice blocks. Light non-aqueous phase liquids will collect in openings in the ice;
- Recover free product through manual or mechanical means including scoops or pumps, or, if approved, combust in situ; and
- Absorb petroleum residue with synthetic sorbent socks, pillows, or pads.

4.3 Spills to Water

A spill to water is less likely for this Project as is expected that water will generally be covered in ice. Regardless, all measures should be taken to prevent spills from entering water, as spills to water pose a greater environmental threat. In the event of a spill to water:

- Employ all measures possible to contain the spill.
- Booms can be used to recover petroleum products on lakes or slow-moving streams. Booms can be deployed near shore, or with the assistance of a boat if the spill is in a lake. If the spill occurs in a stream, the boom should be installed at an angle to the current.
- Once the boom has collected and pooled the spill, collection will be required with a pump or additional sorbent products.
- Weirs can be used to contain spills in streams, providing the weir allows water to flow. Sorbents can then be used to collect the spill.
- Sorbents in conjunction with barriers, such as netting or fencing can be used in flowing water. Place sorbents in the barrier to allow water to pass through. Sorbents need to be changed as soon as they are saturated.
- All fuel or other products collected in the boom, weirs, sorbents, and pumps will require appropriate disposal.

4.4 Spills to Land

A spill to land is less likely for this Project as it is expected that land will be covered in snow. In the event of a spill to land:

- If soil is thawed, trenches can be dug to contain the spill. Digging the trench to the depth of bedrock or permafrost will allow for spill containment, and then removal and proper disposal.
- Dykes can be created around or down hill of the spill. The dyke should be large enough to contain all the spilled fuel. Plastic tarps can be used to line the berm and contain the spill.
- Spilled material recovered from land, either with pumps or sorbents will require appropriate disposal.

4.5 Spill Kits

Spill kits on site may vary based on location, project status, and supplier. Contents of typical small and large kits are presented below.

A typical small (68 L) spill kit may contain the following:

- 50 oil sorbent pads
- 4 small pillows
- 2 large pillows
- 4-4 inch socks
- 1 plug patty (instant leak-stop)
- 1 pair of nitrile gloves
- 1 pair of splash goggles
- 1 disposable respirator

A typical large (220 L) spill kit may contain the following:

- 4 socks (3" x 10')
- 5 socks (3" x 4')
- 50 pads
- 5 pillows
- 1 roll
- 1 drain cover
- 1 caution tape
- 2 pairs nitrile gloves
- 2 pairs safety goggles
- 2 protective coveralls
- 10 disposable bags
- 1 instruction book

Spill kits are inspected at the start of each field season and following each spill response to ensure contents are sufficient to operations. Spill kits will be located at appropriate locations along the winter road, based on the location of construction operations.

5. REPORTING AND DOCUMENTATION

5.1 SAFETY DATA SHEETS (SDS)

Safety Data Sheets (SDSs0 will be maintained by the road building and maintenance contractor, as a condition of employment. The SDS sheets are reviewed at the start of the field season to ensure that appropriate and current SDS sheets are available. An example of the required SDS for the Project are included as Appendix C.

5.2 SPILL REPORTING

Spill reporting is a key component of the spill response efforts to ensure adequate response and remediation. Once it is safe to do so, the first responder shall collect the following info:

1. Date and time of spill
2. Location of spill
3. Direction the spill is moving
4. Name of contact person at location of spill, and phone number where applicable
5. Material and quantity spilled
6. Cause of spill
7. Whether spill is contained or stopped
8. Action taken to contain, recover, clean-up and dispose of spilled material

All spills and unplanned releases are reported to the Project Manager for further required reporting. Materials and quantities listed in Appendix B that are spilled or released in an unplanned manner require external reporting. In the event of a reportable spill and once it is safe to do so, the Project Manager or designate will initiate notification of the following:

1. Lupin Mine Project Manager.

2. NT-NU 24-hour spill report line.
3. CIRNAC and/or GNWT Inspector.

Following initial notification, the Project Manager will complete a NT-NU Spill Reporting Form. The completed form must be submitted to the Inspector within seven calendar days of the incident.

A detailed follow-up report must be submitted to the Inspector within 30 days of the incident.

6. TRAINING

All attendees to the project participate in a site orientation which outlines onsite hazards and roles and responsibilities regarding material handling, storage, and spill response. Spill kit contents and deployment are periodically reviewed at weekly site safety meetings. Training will be documented.

APPENDIX A. NT-NU Spill Report. Oil, Gasoline, Chemicals and Other Hazardous Materials (2024)

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
Tel: (867) 920-8130 • Email: spills@gov.nt.ca

A	Report Date: MM / DD / YY	Report Time:	☐ Original Spill Report OR ☐ Update # _____ to the Original Spill Report	Report Number:
B	Occurrence Date: MM / DD / YY	Occurrence Time:		
C	Land Use Permit Number (if applicable):		Water Licence Number (if applicable):	
D	Geographic Place Name or Distance and Direction from the Named Location:		Region: ☐ NT ☐ Nunavut ☐ Trans-boundary or Ocean	
E	Latitude: _____ Degrees _____ Minutes _____ Seconds		Longitude: _____ Degrees _____ Minutes _____ Seconds	
F	Responsible Party or Vessel Name:	Responsible Party Address or Office Location:		
G	Any Contractor Involved:	Contractor Address or Office Location:		

H	Product Spilled: ☐ Potential Spill	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	Summary of the spill incident and efforts / description of the incident:		

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:

Lead Agency: ☐ EC ☐ CCG/TCMSS ☐ GNWT ☐ GN ☐ ILA ☐ CIRNAC ☐ CER ☐ Other: _____

File Status: ☐ Open ☐ Closed

Agency:	Contact Name:	Contact Time:	Remarks:
Lead Agency:			
First Support Agency:			
Second Support Agency:			
Third Support Agency:			

Instructions for Completing the NT-NU Spill Report Form

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

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

APPENDIX B. Reportable Spill Volumes (Spill Contingency Planning and Reporting Regulations, NWT Reg (Nu) 068-93)

Substance	Reportable Quantity
• Explosives • Compressed gas (toxic/corrosive) • Infectious substances • Sewage and Wastewater (unless otherwise authorized) • Radioactive materials • Unknown substance	Any amount
• Compressed gas (Flammable) • Compressed gas (Non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100L
• Flammable liquid	≥100 L
• Flammable solid • Substances liable to spontaneous combustion • Water reactant substances	≥ 25 kg
• Oxidizing substances	≥ 50 L or 50 kg
• Organic peroxides • Environmentally hazardous substances intended for disposal	≥1 L or 1 kg
• Toxic substances	≥ 5 L or 5 kg
• Corrosive substances • Miscellaneous products, substances, or organisms	≥ 5 L or 5 kg
• PCB mixtures of 5 or more ppm	≥ 0.5 L or 0.5 kg
• Other contaminants--for example, crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, wastewater.	≥ 100 L or 100 kg
• Sour natural gas (i.e., contains H2S) • Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more
• Flammable liquid • Vehicle fluid	≥ 20 L When released on a frozen water body that is being used as a working surface

Substance	Reportable Quantity
Reported releases or potential releases of any size that: • are near or in an open water body; • are near or in a designated sensitive environment or habitat; • Pose an imminent threat to human health or safety; or • Pose an imminent threat to a listed species at risk or its critical habitat	Any amount

Note: *L = litre; kg = kilogram; PCB = Polychlorinated Biphenyls; ppm = parts per million*

Source : *https://www.canlii.org/en/nu/laws/regu/nwt-reg-nu-068-93*

APPENDIX C. Safety Data Sheets (SDS)