

SAFETY DATA SHEET

DIESEL FUEL

000003000395



Version 5.2

Revision Date 2020/03/09

Print Date 2020/03/09

SECTION 1. IDENTIFICATION

Product name : DIESEL FUEL

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

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

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

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

Recommended use of the chemical and restrictions on use

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

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

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

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

GHS Classification

Flammable liquids : Category 3

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Acute toxicity (Inhalation)	: Category 4
Skin irritation	: Category 2
Carcinogenicity	: Category 2
Specific target organ toxicity - single exposure	: Category 3 (Central nervous system)
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 : Flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Harmful if inhaled.
May cause drowsiness or dizziness.
Suspected of causing cancer.
May cause damage to organs (Liver, thymus, Bone) through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER/doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.

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

Storage:

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

Disposal:

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

Potential Health Effects

Primary Routes of Entry : Eye contact
Ingestion
Inhalation
Skin contact

Aggravated Medical Condition : None known.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

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

All above concentrations are in percent by weight.

SECTION 4. FIRST AID MEASURES

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

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

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

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If swallowed	: for at least 15 minutes. Obtain medical attention. : 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.
Notes to physician	: Treat symptomatically. For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIREFIGHTING MEASURES

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: For personal protection see section 8. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions.
Environmental precautions	: If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Prevent further leakage or spillage if safe to do so. 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.
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Smoking, eating and drinking should be prohibited in the application area.
Use only with adequate ventilation.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.

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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Kerosine (petroleum), hydrodesulfurized; Kerosine - unspecified	64742-81-0	TWA	200 mg/m ³ (As total hydrocarbon vapour)	ACGIH
		TWA	200 mg/m ³ (total hydrocarbon vapor)	CA AB OEL
		TWA	525 mg/m ³	CA ON OEL
		TWA	200 mg/m ³ (As total hydrocarbon vapour)	ACGIH
		TWA	200 mg/m ³ (total hydrocarbon vapor)	ACGIH
Kerosine (petroleum); Straight run kerosine	8008-20-6	TWA	200 mg/m ³ (total hydrocarbon vapor)	CA BC OEL
		TWA	200 mg/m ³ (total hydrocarbon vapor)	CA AB OEL
		TWA	200 mg/m ³ (total hydrocarbon vapor)	ACGIH
Fuels, diesel; Gasoil - unspecified	68334-30-5	TWA	100 mg/m ³ (total hydrocarbons)	CA AB OEL
		TWA (Vapour and	100 mg/m ³ (total hydrocar-	CA BC OEL

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

Engineering measures

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

Personal protective equipment

Respiratory protection

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

Filter type

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

Hand protection

Material

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

Remarks

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection

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

Skin and body protection

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

Protective measures

Hygiene measures

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

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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

SECTION 10. STABILITY AND REACTIVITY

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Reactivity	: Stable at normal ambient temperature and pressure.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Reactive with oxidising agents and acids.
Hazardous decomposition products	: May release 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

Product:

Acute oral toxicity : Remarks: No data available

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

Acute dermal toxicity : Remarks: No data available

Components:

Kerosine (petroleum), hydrodesulfurized; Kerosine -unspecified:

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

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

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

Kerosine (petroleum); Straight run kerosine:

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

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

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

Fuels, diesel; Gasoil -unspecified:

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

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

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Test atmosphere: vapour

Acute dermal toxicity : LD50 (Mouse): 24,500 mg/kg.

Skin corrosion/irritation

Product:

Remarks: Causes skin irritation.

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

Product:

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

Germ cell mutagenicity

Product:

Genotoxicity in vitro Remarks: No data available

Genotoxicity in vivo Remarks: No data available

Carcinogenicity

Product:

Carcinogenicity - Assessment Suspected of causing cancer.

Reproductive toxicity

Product:

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

STOT - single exposure

Product:

Remarks: May cause drowsiness or dizziness.

STOT - repeated exposure

Product:

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

No data available

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Aspiration toxicity

Product:

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

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

Toxicity to algae : Remarks: No data available

Toxicity to bacteria : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

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SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

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

IMDG-Code

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

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

National Regulations

TDG

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

SECTION 15. REGULATORY INFORMATION

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

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

DSL On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

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

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

Revision Date : 2020/03/09

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

MATERIAL SAFETY DATA SHEET



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

EXTREME EXTRA HIGH YIELD GEL

EMERGENCY PHONE NO. (604) 575-6660

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WHMIS HAZARD INDEX:

DEGREE OF HAZARD:

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

HAZARD RATING:

0 LEAST
1 SLIGHT
2 MODERATE
3 HIGH
4 EXTREME

SECTION 1

PRODUCT IDENTIFICATION

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

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

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

SECTION 2

HAZARDOUS INGREDIENTS

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

MATERIAL SAFETY DATA SHEET

EXTREME EXTRA HIGH YIELD GEL

SECTION 3**PHYSICAL DATA**

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

SECTION 4**FIRE AND EXPLOSION**

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

SECTION 5**REACTIVITY DATA**

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

MATERIAL SAFETY DATA SHEET

EXTREME EXTRA HIGH YIELD GEL

SECTION 6**HEALTH HAZARDS**

ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

(X) INHALATION

(X) INGESTION

SKIN CONTACT:

EYE CONTACT:

INHALATION:

Possible drying resulting in dermatitis.

Mechanical Irritant

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

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

INGESTION:

No adverse effects.

SECTION 7**PREVENTATIVE MEASURES**

SKIN PROTECTION:

EYE PROTECTION:

VENTILATION:

RESPIRATORY PROTECTION:

LEAK & SPILL PROCEDURE:

WASTE DISPOSAL:

STORAGE REQUIREMENTS:

Generally not necessary.

Goggles may be preferred if dusty conditions develop.

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

Use respirators approved by NIOSH/MSHA for silica dust.

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

Avoid using water, product becomes slippery.

Dispose of in compliance with local and government regulations.

Store in dry area. Product becomes slippery when wet.

MATERIAL SAFETY DATA SHEET

EXTREME EXTRA HIGH YIELD GEL

SECTION 8**FIRST AID MEASURES**

SKIN:

Wash with soap and water until clean.

EYE:

Flush with water until irritation ceases.

INHALATION:

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

INGESTION:

No adverse effects from small quantities.

SECTION 9**PREPARATION DATE**

DATE ISSUED:

AUGUST 20, 1996

DATE REVISED:

JANUARY 01, 2012

BY:

PRODUCT SAFETY COMMITTEE

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SAFETY DATA SHEET
GASOLINE, UNLEADED

000003000644



Version 3.0

Revision Date 2019/06/14

Print Date 2019/06/14

SECTION 1. IDENTIFICATION

Product name : GASOLINE, UNLEADED

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

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

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

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

Recommended use of the chemical and restrictions on use

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

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

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

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

GHS Classification

Flammable liquids : Category 1

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GASOLINE, UNLEADED



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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 : Extremely flammable liquid and vapour.
 May be fatal if swallowed and enters airways.
 Causes skin irritation.
 May cause drowsiness or dizziness.
 May cause genetic defects.
 May cause cancer.
 Suspected of damaging fertility or the unborn child.
 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Keep container tightly closed.
 Ground and bond container and receiving equipment.
 Use explosion-proof electrical/ ventilating/ lighting equipment.
 Use non-sparking tools.
 Take action to prevent static discharges.
 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 Wash skin thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

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

Storage:

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

Disposal:

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

Potential Health Effects

Primary Routes of Entry : Eye contact
Ingestion
Inhalation
Skin contact

Aggravated Medical Condition : None known.

Other hazards

None known.

IARC

Group 1: Carcinogenic to humans

Benzene 71-43-2

ACGIH

Confirmed human carcinogen

Benzene 71-43-2

Confirmed animal carcinogen with unknown relevance to humans

Gasoline 86290-81-5

Ethanol 64-17-5

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

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

All above concentrations are in percent by weight.

SECTION 4. FIRST AID MEASURES

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

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Dry chemical
Carbon dioxide (CO₂)
Water fog.
Foam

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Unsuitable extinguishing media	: Do NOT use water jet.
Specific hazards during fire-fighting	: Cool closed containers exposed to fire with water spray.
Hazardous combustion products	: Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), polynuclear aromatic hydrocarbons, phenols, aldehydes, ketones, smoke and irritating vapours as products of incomplete combustion.
Further information	: Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus and full protective 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.
Environmental precautions	: If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Non-sparking tools should be used. Ensure adequate ventilation. Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

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

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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

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

Biological occupational exposure limits

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

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		Toluene	Urine	week End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
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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.

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

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Viscosity
Viscosity, kinematic : No data available

SECTION 10. STABILITY AND REACTIVITY

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

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Extremes of temperature and direct sunlight.

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

Hazardous decomposition products : May release CO_x, NO_x, phenols, polycyclic aromatic hydrocarbons, aldehydes, ketones, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Ingestion
Inhalation
Skin contact

Acute toxicity

Product:

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

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

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

Components:

Gasoline; Low boiling point naphtha -unspecified:

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

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

toluene:

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

Acute inhalation toxicity : LC50 (Rat): 7585 ppm

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Exposure time: 4 h
Test atmosphere: dust/mist

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

benzene:

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

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

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

ethanol:

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

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

Skin corrosion/irritation

Product:

Remarks: Causes skin irritation.

Serious eye damage/eye irritation

Product:

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

Respiratory or skin sensitisation

Product:

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

Germ cell mutagenicity

Product:

Germ cell mutagenicity-
Assessment : May cause genetic defects.

Carcinogenicity

Product:

Carcinogenicity - As-
sessment : May cause cancer.

Reproductive toxicity

Product:

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

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Assessment

STOT - single exposure

Product:

Remarks: May cause drowsiness or dizziness.

STOT - repeated exposure

Product:

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

No data available

Aspiration toxicity

Product:

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

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

Toxicity to algae : Remarks: No data available

Toxicity to bacteria : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

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

IMDG-Code

UN number : UN 1203
Proper shipping name : GASOLINE

Class : 3
Packing group : II
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : no

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

National Regulations

TDG

UN number : UN 1203
Proper shipping name : GASOLINE

Class : 3
Packing group : II
Labels : 3
ERG Code : 128
Marine pollutant : no

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SECTION 15. REGULATORY INFORMATION

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

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

DSL On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

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

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

Revision Date : 2019/06/14

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

MATERIAL SAFETY DATA SHEET



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

EXTREME ENVIRO COTE

EMERGENCY PHONE NO. (604) 575-6660

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WHMIS HAZARD INDEX:

DEGREE OF HAZARD:

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

HAZARD RATING:

0 LEAST
1 SLIGHT
2 MODERATE
3 HIGH
4 EXTREME

SECTION 1

PRODUCT IDENTIFICATION

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

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

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

SECTION 2

HAZARDOUS INGREDIENTS

INGREDIENT: Base Oil and Additives
PERCENTAGE: 100%
CAS NUMBER: 471-34-1
LD (50): (Rat) >2000mg/kg MINIMALLY TOXIC
LC (50): (Rat) >5000mg/m³ MINIMALLY TOXIC

EXTREME ENVIRO COTE

MATERIAL SAFETY DATA SHEET

SECTION 3**PHYSICAL DATA**

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

SECTION 4**FIRE AND EXPLOSION**

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

SECTION 5**REACTIVITY DATA**

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

MATERIAL SAFETY DATA SHEET

EXTREME ENVIRO COTE

SECTION 6**HEALTH HAZARDS**

ROUTE OF ENTRY:

(X) SKIN

(X) EYE CONTACT

(X) INHALATION

(X) INGESTION

SKIN CONTACT:

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

EYE CONTACT:

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

INHALATION:

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

INGESTION:

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

SECTION 7**PREVENTATIVE MEASURES**

SKIN PROTECTION:

Impervious gloves and protective clothing as required.

EYE PROTECTION:

No special requirements under normal conditions.

VENTILATION:

No special requirements under normal conditions.

RESPIRATORY PROTECTION:

None required under normal use.

LEAK & SPILL PROCEDURE:

Contain and gather up with use of absorbent material.

WASTE DISPOSAL:

Dispose of in compliance with local and government regulations.

STORAGE REQUIREMENTS:

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

EXTREME ENVIRO COTE

MATERIAL SAFETY DATA SHEET

SECTION 8**FIRST AID MEASURES**

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

SECTION 9**PREPARATION DATE**

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

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SAFETY DATA SHEET

Lucas Extreme Duty Gun Grease



Section 1. Identification

GHS product identifier : Lucas Extreme Duty Gun Grease

Other means of identification : Not available.

Product number : 10889, 10919

Identified uses

Not available.

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

Emergency telephone number (with hours of operation) : (951) 493-1149
(951) 847-5949
Markn@lucasoil.com
7:00A.M. to 5:00P.M. Monday thru Friday

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Causes serious eye irritation.
Causes skin irritation.

Precautionary statements

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

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



KMK Regulatory Services

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

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Section 2. Hazards identification

Response	: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Storage	: Not applicable.
Disposal	: Not applicable.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

CAS number/other identifiers

CAS number	: Not applicable.
Product code	:

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

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.





Section 4. First aid measures

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

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

Over-exposure signs/symptoms

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

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

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments : No specific treatment.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.





Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
Sulfur oxides
metal oxide/oxides
- Special protective actions for fire-fighters** : No special measures are required.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.





Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

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

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

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

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.





Section 9. Physical and chemical properties

Appearance

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

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: High temperatures, sparks, or open flames.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

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





Section 11. Toxicological information

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Carcinogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

Name	Result
Butene, homopolymer	ASPIRATION HAZARD - Category 1

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

Potential acute health effects

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

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Short term exposure

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

Long term exposure

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

Potential chronic health effects

General : No known significant effects or critical hazards.





Section 11. Toxicological information

Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	16835 mg/kg

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Butene, homopolymer	7.6 to 7.8	314 to 1882	high

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.



**Section 14. Transport information**

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name			-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

AERG : Not applicable.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

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

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

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

No products were found.

SARA 304 RQ : Not applicable.





Section 15. Regulatory information

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

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

SARA 313

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

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

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

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

California Prop. 65

No products were found.

Section 16. Other information

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

Health : 2 * **Flammability** : 1 **Physical hazards** : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

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

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

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

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

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



KMK Regulatory Services

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www.kmkregservices.com www.askdrluc.com www.ghssmart.com

10/11



Section 16. Other information

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

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



SAFETY DATA SHEET

JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

SECTION 1. IDENTIFICATION

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

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

Product code : 101851, 100123

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

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

Recommended use of the chemical and restrictions on use

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

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

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

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

GHS Classification

Flammable liquids : Category 3

Skin irritation : Category 2

Reproductive toxicity : Category 2

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

Aspiration hazard : Category 1

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GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.

Precautionary statements

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

Potential Health Effects

Primary Routes of Entry

: Eye contact
Ingestion

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

Other hazards

None known.

IARC

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

ACGIH

Confirmed animal carcinogen with unknown relevance to humans

Kerosene

8008-20-6

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

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

SECTION 4. FIRST AID MEASURES

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

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

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	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	: First aider needs to protect himself.

SECTION 5. FIREFIGHTING MEASURES

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

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Methods and materials for containment and cleaning up

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

SECTION 7. HANDLING AND STORAGE

Advice on safe handling

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

Conditions for safe storage

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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

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

Engineering measures

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

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Personal protective equipment

Respiratory protection	: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Filter type	: A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.
Hand protection 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.
Colour	: Clear and colourless
Odour	: Kerosene-like.

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

SECTION 10. STABILITY AND REACTIVITY

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

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

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Ingestion
Inhalation
Skin contact

Acute toxicity

Product:

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

Components:

kerosine (petroleum):

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

Skin corrosion/irritation

Product:

Remarks: No data available

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

SAFETY DATA SHEET

JET A/A-1 AVIATION TURBINE FUEL

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Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

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

Toxicity to algae : Remarks: No data available

Toxicity to bacteria : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

SAFETY DATA SHEET

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000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

Contaminated packaging : Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

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

IMDG-Code

UN number : UN 1863
Proper shipping name : FUEL, AVIATION, TURBINE ENGINE

Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : no

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

National Regulations

TDG

UN number : UN 1863
Proper shipping name : FUEL, AVIATION, TURBINE ENGINE

Class : 3
Packing group : III
Labels : 3
ERG Code : 128
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

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

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

DSL

On the inventory, or in compliance with the inventory

TSCA

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

EINECS

On the inventory, or in compliance with the inventory

Internet: www.petro-canada.ca/msds
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SAFETY DATA SHEET

JET A/A-1 AVIATION TURBINE FUEL

000003001081



Version 2.1

Revision Date 2018/06/07

Print Date 2018/06/07

SECTION 16. OTHER INFORMATION

For Copy of SDS

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

Prepared by

: Product Safety: +1 905-804-4752

Revision Date

: 2018/06/07

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



AMC K ION

AMC

Chemwatch: 4751-58

Version No: 4.1.1.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 2

Issue Date: 11/08/2017

Print Date: 10/23/2019

L.GHS.CAN.EN

SECTION 1 IDENTIFICATION

Product Identifier

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

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions. Drilling fluid additive.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

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

Emergency phone number

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

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

NFPA 704 diamond



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

CANADIAN WHMIS SYMBOLS



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

Hazard pictogram(s)	
SIGNAL WORD	WARNING

Hazard statement(s)

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

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

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

Precautionary statement(s) Prevention

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

Precautionary statement(s) Response

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

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

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

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

SECTION 4 FIRST-AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: - Wash out immediately with fresh running water. - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. - Seek medical attention without delay; if pain persists or recurs seek medical attention. - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
-------------	---

Skin Contact	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

For potassium intoxications:

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

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

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

Special hazards arising from the substrate or mixture

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

Fire Fighting	▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	▶ Non combustible. ▶ Not considered to be a significant fire risk. Decomposes on heating and produces toxic fumes of: carbon dioxide (CO₂) nitrogen oxides (NO_x)

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes.
Major Spills	Minor hazard. ▶ Clear area of personnel.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	▶ Limit all unnecessary personal contact. ▶ Wear protective clothing when risk of exposure occurs.
Other information	▶ Store in original containers. ▶ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	► Polyethylene or polypropylene container. ► Packing as recommended by manufacturer. 20 L pails.
Storage incompatibility	None known

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

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

Ingredient	Original IDLH	Revised IDLH
potassium acetate	Not Available	Not Available

OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
potassium acetate	E	≤ 0.01 mg/m ³

Notes:

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

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	► Safety glasses with side shields ► Chemical goggles. ► Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. ► Wear chemical protective gloves, e.g. PVC. ► Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	► Overalls. ► P.V.C.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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

Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	>100	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	3.1 @ 25°C	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	7.0-9.0
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

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

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

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

AMC K ION	TOXICITY	IRRITATION
	Not Available	Not Available
potassium acetate	TOXICITY	IRRITATION
	Oral (rat) LD50: 3250 mg/kg ^[2]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

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

	non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.		
Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✓
Mutagenicity	✗	Aspiration Hazard	✗

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

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

AMC K ION	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
potassium acetate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>1-mg/L	2
	EC50	48	Crustacea	>919mg/L	2
	EC50	72	Algae or other aquatic plants	>1 mg/L	2
	NOEC	72	Algae or other aquatic plants	1 mg/L	2
Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data					

DO NOT discharge into sewer or waterways.

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

Persistence and degradability

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

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

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

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

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

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

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

POTASSIUM ACETATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)

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

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (potassium acetate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	11/08/2017
Initial Date	Not Available

SDS Version Summary

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

Other information

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

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

Definitions and abbreviations

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

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Material : LINSEED SOAP

MATERIAL SAFETY DATA SHEET

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

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

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

SECTION IV - FIRE AND EXPLOSION HAZARD OF MATERIAL		
Flammability YES ☐ NO ☒ If yes, under what conditions:		
Means of Extinction Use extinguishing media appropriate for surrounding fire.		
Special Procedures not applicable		
Flashpoint (°C) and method not applicable	Upper explosion limit (% by volume) not applicable	Lower explosion limit (% by volume) not applicable

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

SECTION V - REACTIVE DATA	
Chemical Stability YES ☒ NO ☐ If no, under which conditions?	

Material : LINSEED SOAP

MATERIAL SAFETY DATA SHEET

Incompatibility to other substances

YES

☐

NO

☒

If so, which ones?

Reactivity and under what conditions

not applicable

Hazardous Decomposition Products

not applicable

SECTION VI - TOXICOLOGICAL PROPERTIES OF PRODUCT

Route of Entry

☐

Skin Contact

☐

Skin Absorption

☐

Eye Contact

☐

Inhalation Acute

☐

Inhalation Chronic

☐

Ingestion

Effects of Acute Exposure to Product

not applicable

Effects to Chronic Exposure to Product

not applicable

LD 50 of Product (Specify Species and Route)

not applicable

Irritancy of Product

not applicable

Exposure limits of Product (ACGIH TLV)

not applicable

LC 50 of Product (Specify Species)

not applicable

Sensitization to Product

not applicable

Synergistic materials

not applicable

☐

Carcinogenicity

☐

Reproductive effects

☐

Teratogenicity

☐

Mutagenicity

SECTION VII - PREVENTIVE MEASURES

Personal Protective Equipment

not applicable

Gloves (Specify)

not applicable

Respirator (Specify)

not applicable

Eye (Specify)

not applicable

Footware (Specify)

not applicable

Clothing (Specify)

not applicable

Other (Specify)

not applicable

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

not applicable

Leaks and Spill Procedure

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

Waste Disposal

Incineration or sanitary landfill in accordance with government regulations.

Handling Procedure and Equipment

not applicable

Storage Requirements

not applicable

Special Shipping Information

none

Material : LINSEED SOAP

MATERIAL SAFETY DATA SHEET

SECTION V111 - FIRST AID MEASURES

Skin

Rinse with water.

Eye

Rinse with water.

Inhalation

not applicable

Ingestion

Drink 2 glasses of water, induce vomiting.

General advise

not applicable

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

Additional Information / Comments

not applicable

Sources Used

Prepared by	A.J. HOOD	Phone number	905-453-7007	Date	APRIL 9, 2010
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MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

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

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	1
Flammability	3
Physical Hazard	0
Personal Protection	B



2. Hazards Identification

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

3. Composition / Information on Ingredients

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

4. First Aid Measures

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

5. Fire Fighting Measures

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

6. Accidental Release Measures

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

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

7. Handling and Storage

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

8. Exposure Controls / Personal Protection

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

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

9. Physical and Chemical Properties

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

10. Stability and Reactivity

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

11. Toxicological Information

Component analysis - LC50

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

Component analysis - Oral LD50

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

Effects of acute exposure

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

ACGIH - Threshold Limit Values - Carcinogens

Ethanol	64-17-5	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
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Mutagenicity	The finished product is not expected to have chronic health effects.
Reproductive effects	The finished product is not expected to have chronic health effects.
Teratogenicity	The finished product is not expected to have chronic health effects.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns.
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Ecotoxicity - Freshwater Fish - Acute Toxicity Data

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

Ethanol	64-17-5	48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L; 24 Hr EC50 Daphnia magna: 10800 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L [Static]
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Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Mobility in environmental media	Not available
Environmental effects	Not available
Aquatic toxicity	Not available
Partition coefficient	Not available
Chemical fate information	Not available

13. Disposal Considerations

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

14. Transport Information

U.S. Department of Transportation (DOT)

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

Transportation of Dangerous Goods (TDG - Canada)

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

IMDG (Marine Transport)

UN 1950, Aerosols, flammable, Class 2.1

IATA/ICAO (Air)

UN 1950, Aerosols, Flammable, Limited Quantity or

Consumer Commodity, ID 8000 if acceptable to airline.

15. Regulatory Information

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations

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

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Not available

State regulations See below

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

Butane 106-97-8 Present

U.S. - Massachusetts - Right To Know List

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

U.S. - Minnesota - Hazardous Substance List

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

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

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

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

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

U.S. - Rhode Island - Hazardous Substance List

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

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

This product should only be used as directed on the label and for the purpose intended. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Further information

LYSOL® Brand III Disinfectant Spray - Crisp Linen - 6 oz, 12.5 oz, 19 oz, 350g - 0242193 v 1.0

LYSOL® Brand III Disinfectant Spray - "To Go" Crisp Linen - 1 oz, 28 g - 0242193 v 1.0

LYSOL® Brand III Disinfectant Spray - Spring Waterfall - 12.5 oz, 19 oz, 350g - 0258756 v 1.0

LYSOL® Brand III Disinfectant Spray - Crisp Berry - 12.5 oz, 19 oz, 350g - 0175938 v 1.0

LYSOL® Brand III Disinfectant Spray - Early Morning Breeze - 12.5 oz, 19 oz - 0175929 v 1.0

LYSOL® Brand III Disinfectant Spray - Garden Mist - 12.5 oz, 19 oz - 0175932 v 1.0

LYSOL® Brand III Disinfectant Spray - For Baby's Room - 12.5 oz, 19 oz - 01759232 v 1.0

LYSOL® Brand III Disinfectant Spray - Summer Breeze - 12.5 oz, 19 oz - 0175935 v 1.0

LYSOL® Brand III Disinfectant Spray - Citrus Meadows - 12.5 oz, 19 oz - 0175926 v 1.0

LYSOL® Brand III Disinfectant Spray - Vanilla & Blossoms - 12.5 oz, 19 oz - 0175943 v 1.0

LYSOL® Brand III Disinfectant Spray - Jasmine & Rain - 12.5 oz, 19 oz - 0175920 v 1.0

Issue date

17-May-2012

Effective date

15-Mar-2012

Prepared by

Reckitt Benckiser Regulatory Department 800-333-3899

Other information

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