

SAFETY DATA SHEET

1. Identification

Product identifier: BRODI PENTAGRAPH PENETRATING LUBRICANT

Other means of identification

SDS number: RE1000017012

Recommended restrictions

Product use: Lubricant

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name: BRODI SPECIALTY PRODUCTS LTD
Address: 3175 14TH AV, UNIT 1
MARKHAM, ONTARIO L3R 0H1
Telephone: 877-744-0751
Fax:

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol Category 1

Health Hazards

Serious Eye Damage/Eye Irritation Category 2A

Aspiration Hazard Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Extremely flammable aerosol.
Causes serious eye irritation.
May be fatal if swallowed and enters airways.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear eye protection/face protection.

Response:	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage:	Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification:	None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
White mineral oil (petroleum)		8042-47-5	15 - 40%
Distillates (petroleum), hydrotreated middle		64742-46-7	10 - 30%
Ethanol, 2-(2-butoxyethoxy)-		112-34-5	7 - 13%
Naphtha (petroleum), heavy alkylate		64741-65-7	5 - 10%
Propane		74-98-6	5 - 10%
Butane		106-97-8	5 - 10%
Distillates (petroleum), hydrotreated heavy naphthenic		64742-52-5	1 - 5%

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

4. First-aid measures

Ingestion:	Call a physician or poison control center immediately. Rinse mouth. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation:	Move to fresh air.
Skin Contact:	Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms:	No data available.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	No data available.
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5. Fire-fighting measures

General Fire Hazards:	Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

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

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.

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

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.

Conditions for safe storage, including any incompatibilities: Store locked up. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 3

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
White mineral oil (petroleum) - Mist.	STEL	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
White mineral oil (petroleum) - Mist.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

White mineral oil (petroleum)	8 HR ACL	5 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
	15 MIN ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
White mineral oil (petroleum) - Inhalable fraction.	TWA	5 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011)
White mineral oil (petroleum) - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
White mineral oil (petroleum) - Mist.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
White mineral oil (petroleum) - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2010)
Distillates (petroleum), hydrotreated middle - Mist.	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
	STEL	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Distillates (petroleum), hydrotreated middle	8 HR ACL	5 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
	15 MIN ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Distillates (petroleum), hydrotreated middle - Mist.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Distillates (petroleum), hydrotreated middle - Inhalable fraction.	TWA	5 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2014)
Distillates (petroleum), hydrotreated middle - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Distillates (petroleum), hydrotreated middle - Mist.	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
Distillates (petroleum), hydrotreated middle - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2014)
Ethanol, 2-(2-butoxyethoxy)- - Inhalable fraction and vapor.	TWA	10 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2013)
Ethanol, 2-(2-butoxyethoxy)- - Inhalable fraction and vapor.	TWA	10 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Ethanol, 2-(2-butoxyethoxy)- - Inhalable fraction and vapor.	TWA	10 ppm	US. ACGIH Threshold Limit Values, as amended (03 2013)
Naphtha (petroleum), heavy alkylate	8 HR ACL	400 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Naphtha (petroleum), heavy alkylate	TWA	400 ppm 1,590 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
	15 MIN ACL	500 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Naphtha (petroleum), heavy alkylate	TWA	525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Naphtha (petroleum), heavy alkylate	TWA	400 ppm 1,590 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)

Propane	TWA	1,000 ppm	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Propane	8 HR ACL	1,000 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Propane	TWA	1,000 ppm 1,800 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (12 2008)
Propane	TWA	1,000 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	15 MIN ACL	1,250 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Butane	STEL	1,000 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (08 2017)
Butane	STEL	750 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2017)
	TWA	600 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2017)
Butane	TWA	800 ppm 1,900 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (12 2008)
Butane	TWA	1,000 ppm	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Butane	8 HR ACL	1,000 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Butane	STEL	1,000 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2018)
	15 MIN ACL	1,250 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Butane	STEL	1,000 ppm	US. ACGIH Threshold Limit Values, as amended (03 2018)
Distillates (petroleum), hydrotreated heavy naphthenic - Mist.	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
	STEL	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Distillates (petroleum), hydrotreated heavy naphthenic	8 HR ACL	5 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
	15 MIN ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Distillates (petroleum), hydrotreated heavy naphthenic - Mist.	TWA	0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Distillates (petroleum), hydrotreated heavy naphthenic - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Distillates (petroleum), hydrotreated heavy naphthenic - Mist.	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
Distillates (petroleum), hydrotreated heavy naphthenic - Inhalable fraction.	TWA	5 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2014)
	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)

Distillates (petroleum), hydrotreated heavy naphthenic - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2014)
Distillates (petroleum), solvent-refined heavy paraffinic - Mist.	STEL	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Distillates (petroleum), solvent-refined heavy paraffinic - Mist.	TWA	0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Distillates (petroleum), solvent-refined heavy paraffinic	8 HR ACL	5 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
	15 MIN ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Distillates (petroleum), solvent-refined heavy paraffinic - Inhalable fraction.	TWA	5 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011)
Distillates (petroleum), solvent-refined heavy paraffinic - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Distillates (petroleum), solvent-refined heavy paraffinic - Mist.	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
Distillates (petroleum), solvent-refined heavy paraffinic - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2010)
Molybdenum sulfide (MoS2) - Total - as Mo	TWA	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Molybdenum sulfide (MoS2) - Respirable. - as Mo	TWA	3 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Molybdenum sulfide (MoS2) - Inhalable	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Molybdenum sulfide (MoS2) - Respirable.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Molybdenum sulfide (MoS2) - Inhalable fraction. - as Mo	TWA	10 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011)
Molybdenum sulfide (MoS2) - Respirable fraction. - as Mo	TWA	3 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011)
Molybdenum sulfide (MoS2) - Respirable fraction. - as Mo	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Molybdenum sulfide (MoS2) - Inhalable fraction. - as Mo	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Molybdenum sulfide (MoS2) - Inhalable fraction. - as Mo	8 HR ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
	15 MIN ACL	20 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Molybdenum sulfide (MoS2) - as Mo	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
Molybdenum sulfide (MoS2) - Respirable fraction. - as Mo	TWA	3 mg/m3	US. ACGIH Threshold Limit Values, as amended (2009)
Molybdenum sulfide (MoS2) - Inhalable fraction. - as Mo	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (2009)

Distillates (petroleum), solvent-dewaxed heavy paraffinic - Mist.	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
	STEL	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Distillates (petroleum), solvent-dewaxed heavy paraffinic	15 MIN ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
	8 HR ACL	5 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Inhalable fraction.	TWA	5 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2014)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Mist.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Mist.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2014)
Distillates (petroleum), solvent-refined light paraffinic - Mist.	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
	STEL	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Distillates (petroleum), solvent-refined light paraffinic - Mist.	TWA	0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Distillates (petroleum), solvent-refined light paraffinic	8 HR ACL	5 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Distillates (petroleum), solvent-refined light paraffinic - Inhalable fraction.	TWA	5 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011)
	15 MIN ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009)
Distillates (petroleum), solvent-refined light paraffinic - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Distillates (petroleum), solvent-refined light paraffinic - Mist.	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017)
Distillates (petroleum), solvent-refined light paraffinic - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2010)

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information:	Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin Protection	
Hand Protection:	No data available.
Other:	Wear suitable protective clothing.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Avoid contact with eyes. When using do not smoke.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	Spray Aerosol
Color:	No data available.
Odor:	No data available.
Odor threshold:	No data available.
pH:	Estimated 6 - 7
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	-104.44 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	Estimated 10.9 %(V)
Flammability limit - lower (%):	Estimated 0.9 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	2,068 - 3,447 hPa (20 °C)
Vapor density:	No data available.
Density:	Estimated 0.781 g/cm ³
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
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Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Information on likely routes of exposure

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

Symptoms related to the physical, chemical and toxicological characteristics

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

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

White mineral oil (petroleum)	LD 50 (Rat): > 5,000 mg/kg
Distillates (petroleum), hydrotreated middle	LD 50 (Rat): > 5,000 mg/kg
Ethanol, 2-(2-butoxyethoxy)-	LD 50 (Mouse): 2,410 mg/kg
Naphtha (petroleum), heavy alkylate	LD 50: > 2,000 mg/kg
Distillates (petroleum), hydrotreated heavy naphthenic	LD 50 (Rat): > 5,000 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

White mineral oil (petroleum)	LD 50 (Rabbit): > 2,000 mg/kg
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Distillates (petroleum),
hydrotreated middle LD 50 (Rabbit): > 2,000 mg/kg

Ethanol, 2-(2-
butoxyethoxy)- LD 50 (Rabbit): 2,764 mg/kg

Naphtha (petroleum),
heavy alkylate LD 50: > 2,000 mg/kg

Distillates (petroleum),
hydrotreated heavy
naphthenic LD 50 (Rabbit): > 2,000 mg/kg

Inhalation

Product: ATEmix: 16.12 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	NOAEL (Rat(Female, Male), Oral, 90 d): >= 20,000 ppm(m) Oral Experimental result, Key study
Distillates (petroleum), hydrotreated middle	LOAEL (Rat(Female, Male), Inhalation): 24 mg/m3 Inhalation Experimental result, Key study NOAEL (Rabbit(Female, Male), Dermal): 1,000 mg/kg Dermal Experimental result, Key study
Ethanol, 2-(2- butoxyethoxy)-	NOAEL (Rat(Female, Male), Inhalation, 90 - 120 d): 14 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Oral, 90 d): 250 mg/kg Oral Experimental result, Key study NOAEL (Rat(Female, Male), Dermal, 13 Weeks): > 2,000 mg/kg Dermal Experimental result, Key study
Propane	NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
Butane	LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study
Distillates (petroleum), hydrotreated heavy naphthenic	NOAEL (Rat(Female, Male), Inhalation): > 980 mg/m3 Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Dermal, 13 Weeks): >= 2,000 mg/kg Dermal Experimental result, Key study

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	in vivo (Rabbit): Not irritant Experimental result, Key study
Distillates (petroleum), hydrotreated middle	in vivo (Rabbit): Not irritant Experimental result, Key study
Ethanol, 2-(2- butoxyethoxy)-	in vivo (Rabbit): Not irritant Experimental result, Supporting study
Distillates (petroleum), hydrotreated heavy naphthenic	in vivo (Rabbit): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	Rabbit, 24 - 72 hrs: Not irritating
Distillates (petroleum), hydrotreated middle	Rabbit, 24 hrs: Not irritating
Ethanol, 2-(2-butoxyethoxy)-	Rabbit, 24 - 72 hrs: Highly irritating
Distillates (petroleum), hydrotreated heavy naphthenic	Rabbit, 48 hrs: Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Distillates (petroleum), hydrotreated middle	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Ethanol, 2-(2-butoxyethoxy)-	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Distillates (petroleum), hydrotreated heavy naphthenic	Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

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

No carcinogenic components identified

ACGIH Carcinogen List:

No carcinogenic components identified

Germ Cell Mutagenicity**In vitro**

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	May be fatal if swallowed and enters airways.
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Naphtha (petroleum),
heavy alkylate

May be fatal if swallowed and enters airways.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	NOAEL (Oncorhynchus mykiss, 96 h): ≥ 100 mg/l Experimental result, Key study
Ethanol, 2-(2-butoxyethoxy)-	LC 50 (Pimephales promelas, 96 h): 2,400 mg/l Experimental result, Supporting study
Propane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Butane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Distillates (petroleum), hydrotreated heavy naphthenic	LL 50 (Pimephales promelas, 96 h): > 100 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	NOAEL (Daphnia magna, 48 h): ≥ 100 mg/l Experimental result, Key study
Ethanol, 2-(2-butoxyethoxy)-	LC 50 (Daphnia magna, 48 h): $\pm 1,743$ mg/l QSAR QSAR, Supporting study
Butane	LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study
Distillates (petroleum), hydrotreated heavy naphthenic	EC 50 (Daphnia magna, 48 h): $> 10,000$ mg/l Experimental result, Key study NOAEL (Daphnia magna, 48 h): $\geq 10,000$ mg/l Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	NOAEL (Oncorhynchus mykiss): $\geq 1,000$ mg/l QSAR QSAR, Supporting study
Distillates (petroleum), hydrotreated heavy naphthenic	NOAEL (Oncorhynchus mykiss): $\geq 1,000$ mg/l QSAR QSAR, Supporting study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

White mineral oil (petroleum)	NOAEL (Daphnia magna): $\geq 1,000$ mg/l QSAR QSAR, Supporting study
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Distillates (petroleum), hydrotreated heavy naphthenic NOAEL (Daphnia magna): 10 mg/l Experimental result, Key study

Toxicity to Aquatic Plants
Product:

No data available.

Persistence and Degradability
Biodegradation
Product:

No data available.

Specified substance(s):

White mineral oil (petroleum) 31 % (28 d) Detected in water. Read-across from supporting substance (structural analogue or surrogate), Supporting study

Distillates (petroleum), hydrotreated middle 41.96 % Detected in water. Experimental result, Key study

Ethanol, 2-(2-butoxyethoxy)- 85 % (28 d) Detected in water. Experimental result, Key study

Propane 100 % (385.5 h) Detected in water. Experimental result, Key study
50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study

Butane 100 % (385.5 h) Detected in water. Experimental result, Key study

Distillates (petroleum), hydrotreated heavy naphthenic 31 % (28 d) Detected in water. Read-across based on grouping of substances (category approach), Supporting study
2 - 4 % (28 d) Detected in water. Experimental result, Supporting study

BOD/COD Ratio
Product:

No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product:

No data available.

Partition Coefficient n-octanol / water (log Kow)
Product:

No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

White mineral oil (petroleum)	No data available.
Distillates (petroleum), hydrotreated middle	No data available.
Ethanol, 2-(2-butoxyethoxy)-	No data available.
Naphtha (petroleum), heavy alkylate	No data available.
Propane	No data available.
Butane	No data available.
Distillates (petroleum), hydrotreated heavy naphthenic	No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

14. Transport information

TDG

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2.1
Label(s):	—
EmS No.:	
Packing Group:	—
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IMDG

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2
Label(s):	—
EmS No.:	
Packing Group:	—
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 1950
Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es):	
Class:	2.1
Label(s):	—
Packing Group:	—
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)

Not Regulated

Export Control List (CEPA 1999, Schedule 3)

Not Regulated

National Pollutant Release Inventory (NPRI)

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

NPRI PT5	White mineral oil (petroleum)
	Naphtha (petroleum), heavy alkylate
	Propane
	Butane

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)
NPRI Not Regulated

Greenhouse Gases

Not Regulated

Controlled Drugs and Substances Act

CA CDSI	Not Regulated
CA CDSII	Not Regulated
CA CDSIII	Not Regulated
CA CDSIV	Not Regulated
CA CDSV	Not Regulated
CA CDSVII	Not Regulated
CA CDSVIII	Not Regulated

Precursor Control Regulations

Not Regulated

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Mexico INSQ:	Not in compliance with the inventory.
Ontario Inventory:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision
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Issue Date: 06/03/2020

Revision Date: No data available.

Version #: 1.0

Further Information: No data available.

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