



Shell Brake Cleaner (Aerosol)

Recochem Inc. (PFX GROUP)

Chemwatch: 5327-71

Version No: 4.2

Safety Data Sheet according to WHMIS 2023 requirements

Initial Date: 09/12/2019

Revision Date: 06/05/2026

Print Date: 18/05/2026

S.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	Shell Brake Cleaner (Aerosol)
Chemical Name	Not Applicable
Synonyms	Product code: 71241-400SCC
Proper shipping name	AEROSOLS, FLAMMABLE
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Cleaning Solvent. Use according to manufacturer's directions. Application is by spray atomisation from a hand held aerosol pack
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Recochem Inc. (PFX GROUP)
Address	850 Montée de Liesse Saint-Laurent QC H4T 1P4 Canada
Telephone	514-341-3550
Fax	Not Available
Website	www.recochem.com
Email	TPerks@recochem.com

Emergency phone number

Association / Organisation	CANUTEC	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone number(s)	613-996-6666 (24/7 365)	+1 867 670 2867 (ID#: 5327-71)
Other emergency telephone number(s)	Not Available	+61 3 9573 3188

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 and White = Special (Oxidizer or water reactive substances)


Canadian WHMIS Symbols



Classification	Aerosols, Hazard Category 1, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Simple Asphyxiant
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Label elements

Shell Brake Cleaner (Aerosol)

Hazard pictogram(s)	
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Signal word	Danger
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Hazard statement(s)

H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
	May displace oxygen and cause rapid suffocation

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe gas.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P270	Do not eat, drink or smoke when using this product.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
P331	Do NOT induce vomiting.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

Precautionary statement(s) Storage

P405	Store locked up.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
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.
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No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
64742-89-8.	60-70	<u>solvent naphtha petroleum, light aliphatic</u>
Not Available		with components;
110-54-3	<30	<u>n-hexane</u>
67-63-0	<20	<u>isopropanol</u>
74-98-6	10-30	<u>propane</u>
106-97-8.	10-30	<u>butane</u>

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

SECTION 4 First-aid measures

Continued...

Description of first aid measures

Eye Contact	<p>If aerosols come in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes 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. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> ▶ Flush skin and hair with running water (and soap if available). ▶ Remove any adhering solids with industrial skin cleansing cream. ▶ DO NOT use solvents. ▶ Seek medical attention in the event of irritation.
Inhalation	<p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> ▶ Remove to fresh air. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor.
Ingestion	<ul style="list-style-type: none"> ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol. <p>Not considered a normal route of entry.</p> <ul style="list-style-type: none"> ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

For petroleum distillates

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption - decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function.
- Positive pressure ventilation may be necessary.
- Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.
- Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

Treat symptomatically.

Following acute or short term repeated exposures to n-hexane:

- ▶ Large quantities of n-hexane are expired by the lungs after vapour exposure (50-60%). Humans exposed to 100 ppm demonstrate an n-hexane biological half life of 2 hours.
- ▶ Initial attention should be directed towards evaluation and support of respiration. Cardiac dysrhythmias are a potential complication.

INGESTION:

- ▶ Ipecac syrup should be considered for ingestion of pure hexane exceeding 2-3ml/kg. Extreme caution must be taken to avoid aspiration since small amounts of n-hexane intratracheally, produce a severe chemical pneumonitis.

[Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

BEIs represent the levels of determinants which are most likely to be observed in specimens collected in a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the Exposure Standard (ES or TLV).

Determinant	Index	Sampling Time	Comments
1. 2,5-hexanedione in urine	5 mg/gm creatinine	End of shift	NS
2. n-Hexane in end-exhaled air			SQ

NS: Non-specific determinant; Metabolite observed following exposure to other materials.

SQ: Semi-quantitative determinant; Interpretation may be ambiguous - should be used as a screening test or confirmatory test.

SECTION 5 Fire-fighting measures**Extinguishing media**

- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

SMALL FIRE:

- ▶ Water spray, dry chemical or CO2

LARGE FIRE:

- ▶ Water spray or fog.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ If safe, switch off electrical equipment until vapour fire hazard removed. ▶ Use water delivered as a fine spray to control fire and cool adjacent area. ▶ DO NOT approach containers suspected to be hot.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Liquid and vapour are highly flammable. ▶ Severe fire hazard when exposed to heat or flame. ▶ Vapour forms an explosive mixture with air. ▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark. ▶ Vapour may travel a considerable distance to source of ignition. ▶ Heating may cause expansion or decomposition with violent container rupture. ▶ Aerosol cans may explode on exposure to naked flames.

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Combustion products include:

- ▶ carbon monoxide (CO)
- ▶ carbon dioxide (CO₂)
- ▶ other pyrolysis products typical of burning organic material.

Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Wear protective clothing, impervious gloves and safety glasses. ▶ Shut off all possible sources of ignition and increase ventilation. ▶ Wipe up. ▶ If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated. ▶ Undamaged cans should be gathered and stowed safely.
Major Spills	<ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water courses ▶ No smoking, naked lights or ignition sources. ▶ Increase ventilation. ▶ Stop leak if safe to do so.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<p>The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. The substance may concentrate around the container opening for example.</p> <p>Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.</p> <ul style="list-style-type: none"> ▶ A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation. An expiration date should be determined. The chemical should either be treated to remove peroxides or disposed of before this date. ▶ The person or laboratory receiving the chemical should record a receipt date on the bottle. ▶ Avoid skin contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Prevent concentration in hollows and sumps. ▶ DO NOT enter confined spaces until atmosphere has been checked. ▶ Avoid smoking, naked lights or ignition sources. ▶ Avoid contact with incompatible materials.
Other information	<ul style="list-style-type: none"> ▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Aerosol dispenser. ▶ Check that containers are clearly labelled.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	solvent naphtha petroleum, light aliphatic	Oil mist, mineral	5 mg/m ³	10 mg/m ³	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	solvent naphtha petroleum, light aliphatic	Oil mist, mineral	5 mg/m ³	10 mg/m ³	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	solvent naphtha petroleum, light aliphatic	Not Available	5 mg/m ³	Not Available	Not Available	TLV® Basis: URT irr
Canada - Prince Edward Island Occupational Exposure Limits	solvent naphtha petroleum, light aliphatic	Mineral oil, excluding metal working fluids - Pure, highly and severely refined	5 mg/m ³	Not Available	Not Available	A4

Continued...

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
		(Inhalable particulate matter)				
Canada - British Columbia Occupational Exposure Limits	solvent naphtha petroleum, light aliphatic	Oil mist - mineral, severely refined	1 mg/m3	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	solvent naphtha petroleum, light aliphatic	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	solvent naphtha petroleum, light aliphatic	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	solvent naphtha petroleum, light aliphatic	Mineral oil (mist): Pure, highly and ultra-refined - inhalable dust	5 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits Canada	solvent naphtha petroleum, light aliphatic	Oil mist - mineral	5 mg/m3	10 mg/m3	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - British Columbia Occupational Exposure Limits (French Canadian)	solvent naphtha petroleum, light aliphatic	Brouillard d'huile – minéral, fortement raffiné	1 mg/m3	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits (French Canadian)	solvent naphtha petroleum, light aliphatic	Brouillard d'huile minérale	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits (French Canadian)	solvent naphtha petroleum, light aliphatic	Huile minérale, excluant les fluides de travail des métaux – pure, hautement et sévèrement raffinée	5 mg/m3	Not Available	Not Available	Base TLV® : irritation des VRS sup
Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian)	solvent naphtha petroleum, light aliphatic	Brouillard d'huile - minéral	5 mg/m3	10 mg/m3	Not Available	Base TLV® : poumon. Échantillonné par une méthode ne captant pas la vapeur
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian)	solvent naphtha petroleum, light aliphatic	Brouillard d'huile minérale	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian)	solvent naphtha petroleum, light aliphatic	Brouillard d'huile minérale	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Prince Edward Island Occupational Exposure Limits (French Canadian)	solvent naphtha petroleum, light aliphatic	Huile minérale, à l'exclusion des fluides de travail des métaux – pure, hautement et sévèrement raffinée (matières particulaires inhalables)	5 mg/m3	Not Available	Not Available	A4
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	n-hexane	Hexane (n-hexane)	100 ppm / 360 mg/m3	450 mg/m3 / 125 ppm	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	n-hexane	Hexane (n-Hexane)	50 ppm	62.5 ppm	Not Available	Skin
Canada - Manitoba Occupational Exposure Limits	n-hexane	Not Available	50 ppm	Not Available	Not Available	TLV® Basis: CNS impair; peripheral neuropathy; eye irr; BEI
Canada - Prince Edward Island Occupational Exposure Limits	n-hexane	n-Hexane	50 ppm	Not Available	Not Available	Skin; BEI
Canada - British Columbia Occupational Exposure Limits	n-hexane	n-Hexane	20 ppm	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	n-hexane	n-Hexane	50 ppm / 176 mg/m3	Not Available	Not Available	1 - substance may be readily absorbed through intact skin
Canada - Northwest Territories Occupational Exposure Limits	n-hexane	Hexane (n-Hexane)	50 ppm	62.5 ppm	Not Available	Skin
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	n-hexane	n-Hexane	50 ppm / 176 mg/m3	Not Available	Not Available	Pc: SKIN (percutaneous): Exposure is by contact with vapours or, of probable greater significance, by direct skin contact with the substance. The cutaneous route includes mucous membranes and the eyes.
Canada - Nova Scotia Occupational Exposure Limits Canada	n-hexane	n-Hexane	50 ppm	Not Available	Not Available	TLV Basis: central nervous system impairment; peripheral neuropathy; eye irritation
Canada - British Columbia Occupational Exposure Limits (French Canadian)	n-hexane	n-Hexane	20 ppm	Not Available	Not Available	Not Available

Shell Brake Cleaner (Aerosol)

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Alberta Occupational Exposure Limits (French Canadian)	n-hexane	n-hexane	50 ppm / 176 mg/m3	Not Available	Not Available	1 - La substance peut être facilement absorbée à travers la peau intacte
Canada - Manitoba Occupational Exposure Limits (French Canadian)	n-hexane	n-hexane	50 ppm	Not Available	Not Available	Base TLV® : atteinte du SNC ; neuropathie périphérique ; irritation des yeux ; BEI
Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian)	n-hexane	n-Hexane	50 ppm	Not Available	Not Available	Base TLV® : atteinte du système nerveux central ; neuropathie périphérique ; irritation des yeux
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian)	n-hexane	Hexane (n-hexane)	50 ppm	62.5 ppm	Not Available	Peau
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian)	n-hexane	Hexane (n-hexane)	100 ppm / 360 mg/m3	450 mg/m3 / 125 ppm	Not Available	Not Available
Canada - Prince Edward Island Occupational Exposure Limits (French Canadian)	n-hexane	n-Hexane	50 ppm	Not Available	Not Available	Peau; BEI
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	isopropanol	Isopropyl alcohol - Skin	400 ppm / 980 mg/m3	1,225 mg/m3 / 500 ppm	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	isopropanol	Isopropyl alcohol	200 ppm	400 ppm	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	isopropanol	Not Available	200 ppm	400 ppm	Not Available	TLV® Basis: Eye & URT irr; CNS impair; BEI
Canada - Prince Edward Island Occupational Exposure Limits	isopropanol	2-Propanol	200 ppm	400 ppm	Not Available	A4; BEI
Canada - British Columbia Occupational Exposure Limits	isopropanol	Isopropanol (Isopropyl alcohol)	200 ppm	400 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	isopropanol	Isopropanol (2-Propanol, Isopropyl alcohol)	200 ppm / 492 mg/m3	984 mg/m3 / 400 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	isopropanol	2-Propanol (Isopropyl alcohol, isopropanol)	200 ppm / 492 mg/m3	984 mg/m3 / 400 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	isopropanol	Isopropyl alcohol (2-Propanol, Isopropanol)	200 ppm / 492 mg/m3	984 mg/m3 / 400 ppm	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	isopropanol	Isopropyl alcohol	200 ppm	400 ppm	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	isopropanol	Isopropyl alcohol	200 ppm	400 ppm	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits Canada	isopropanol	2-Propanol	200 ppm	400 ppm	Not Available	TLV Basis: eye & upper respiratory tract irritation; central nervous system impairment
Canada - British Columbia Occupational Exposure Limits (French Canadian)	isopropanol	Isopropanol (alcool isopropylique)	200 ppm	400 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits (French Canadian)	isopropanol	Isopropanol (2-propanol, alcool isopropylique)	200 ppm / 492 mg/m3	984 mg/m3 / 400 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits (French Canadian)	isopropanol	2-propanol (alcool isopropylique, isopropanol)	200 ppm / 492 mg/m3	984 mg/m3 / 400 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits (French Canadian)	isopropanol	Alcool isopropylique (2-propanol, isopropanol)	200 ppm / 492 mg/m3	984 mg/m3 / 400 ppm	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits (French Canadian)	isopropanol	2-propanol	200 ppm	400 ppm	Not Available	Base TLV® : yeux et URT irritations ; atteinte du SNC ; BEI
Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian)	isopropanol	2-Propanol	200 ppm	400 ppm	Not Available	Base TLV® : irritation des yeux et des voies respiratoires supérieures ; atteinte du système nerveux central
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian)	isopropanol	Alcool isopropylique	200 ppm	400 ppm	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian)	isopropanol	Alcool isopropylique - Peau	400 ppm / 980 mg/m3	1,225 mg/m3 / 500 ppm	Not Available	Not Available


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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Prince Edward Island Occupational Exposure Limits (French Canadian)	isopropanol	2-Propanol	200 ppm	400 ppm	Not Available	A4; BEI
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	propane	Propane	Not Available	Not Available	Not Available	(See Table 12)
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	propane	Propane	Not Available	Not Available	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	propane	Not Available	Not Available	Not Available	Not Available	TLV® Basis: Asphyxia; See Appendix F: Minimal Oxygen Content
Canada - Prince Edward Island Occupational Exposure Limits	propane	Propane	Not Available	Not Available	Not Available	Not Available
Canada - British Columbia Occupational Exposure Limits	propane	Aliphatic hydrocarbon gases [C1-C4]	1000 ppm	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	propane	Propane	1000 ppm	Not Available	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	propane	Aliphatic hydrocarbon gases, Alkane [C1-C4]	1000 ppm	1250 ppm	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	propane	Propane	1000 ppm / 1800 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits Canada	propane	Propane	1000 ppm	Not Available	Not Available	TLV Basis: cardiac sensitization; central nervous system impairment
Canada - British Columbia Occupational Exposure Limits (French Canadian)	propane	Gaz d'hydrocarbures aliphatiques [C1-C4]	1000 ppm	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits (French Canadian)	propane	Propane	1000 ppm	Not Available	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits (French Canadian)	propane	Propane	Not Available	Not Available	Not Available	Base TLV® : asphyxie ; voir Annexe F : teneur minimale en oxygène
Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian)	propane	Propane	1000 ppm	Not Available	Not Available	Base TLV® : sensibilisation cardiaque ; atteinte du système nerveux central
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian)	propane	Propane	Not Available	Not Available	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian)	propane	Propane	Not Available	Not Available	Not Available	(Voir le tableau 12)
Canada - Prince Edward Island Occupational Exposure Limits (French Canadian)	propane	Propane	Not Available	Not Available	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	butane	Butane	600 ppm / 1,400 mg/m3	1,600 mg/m3 / 750 ppm	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	butane	Butane, All isomers	Not Available	Not Available	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	butane	Aliphatic hydrocarbon gases, Alkane [C1-C4]	1000 ppm	1250 ppm	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	butane	Not Available	Not Available	1000 ppm	Not Available	TLV® Basis: CNS impair
Canada - Prince Edward Island Occupational Exposure Limits	butane	Butane, isomers	Not Available	1000 ppm	Not Available	Not Available
Canada - British Columbia Occupational Exposure Limits	butane	n-Butane	600 ppm	750 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	butane	Butane	1000 ppm	Not Available	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	butane	Aliphatic hydrocarbon gases, Alkane [C1-C4]	1000 ppm	1250 ppm	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	butane	Butane	800 ppm / 1900 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits Canada	butane	Aliphatic hydrocarbon gases - Alkane [C1-C4]	1000 ppm	Not Available	Not Available	TLV Basis: Cardiac sensitization; CNS impairment

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Nova Scotia Occupational Exposure Limits Canada	butane	Butane	1000 ppm	Not Available	Not Available	See Aliphatic hydrocarbon gases
Canada - Nova Scotia Occupational Exposure Limits Canada	butane	Butane - All isomers	1000 ppm	Not Available	Not Available	See Aliphatic hydrocarbon gases
Canada - British Columbia Occupational Exposure Limits (French Canadian)	butane	n-Butane	600 ppm	750 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits (French Canadian)	butane	Butane	1000 ppm	Not Available	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits (French Canadian)	butane	Butane, tous les isomères	Not Available	1000 ppm	Not Available	Base TLV® : atteinte du SNC
Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian)	butane	Butane	1000 ppm	Not Available	Not Available	Voir gaz hydrocarbures aliphatiques
Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian)	butane	Butane - Tous les isomères	1000 ppm	Not Available	Not Available	Voir gaz hydrocarbures aliphatiques
Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian)	butane	Gaz hydrocarbures aliphatiques - Alcane [C1-C4]	1000 ppm	Not Available	Not Available	Base TLV® : sensibilisation cardiaque ; atteinte du système nerveux central
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian)	butane	Butane, tous isomères	Not Available	Not Available	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian)	butane	Gaz hydrocarbures aliphatiques, alcane [C1-C4]	1000 ppm	1250 ppm	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian)	butane	Butane	600 ppm / 1,400 mg/m3	1,600 mg/m3 / 750 ppm	Not Available	Not Available
Canada - Prince Edward Island Occupational Exposure Limits (French Canadian)	butane	Butane, isomères	Not Available	1000 ppm	Not Available	Not Available

Exposure controls

Appropriate engineering controls	<p>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. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p>
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ▶ No special equipment needed when handling small quantities. ▶ OTHERWISE: ▶ For potentially moderate exposures: ▶ Wear general protective gloves, eg. light weight rubber gloves. ▶ For potentially heavy exposures: ▶ Wear chemical protective gloves, eg. PVC. and safety footwear.
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▶ Overalls. ▶ Skin cleansing cream. ▶ Eyewash unit. ▶ Do not spray on hot surfaces.

Respiratory protection

Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.

Continued...

Shell Brake Cleaner (Aerosol)

- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	AX-AUS / Class 1	-
up to 50	1000	-	AX-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	AX-2
up to 100	10000	-	AX-3
100+		-	Airline**

** - Continuous-flow or positive pressure demand.

A(All classes) = Organic vapours, B AUS or B1 = Acid gases, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 deg C)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance/Colour	Colourless aerosol liquid with paraffinic sweet odour; not miscible with water.		
Physical state	Compressed Gas	Relative density (Water = 1)	0.67-0.755
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	<35	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	-104 (propane)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	9.5	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	34.5	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	>1	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m ³)	Not Available	Enclosed Space Ignition Deflagration Density (g/m ³)	Not Available
Particle Characteristics	Not Available		

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Elevated temperatures. ▶ Presence of open flame. ▶ Product is considered stable. ▶ 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

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye	There is sufficient evidence to classify this material as eye damaging or irritating.

Shell Brake Cleaner (Aerosol)

Damage/Irritation	
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	There is sufficient evidence to classify this material as toxic to reproductivity
h) STOT - Single Exposure	There is sufficient evidence to classify this material as toxic to specific organs through single exposure
i) STOT - Repeated Exposure	There is sufficient evidence to classify this material as toxic to specific organs through repeated exposure
j) Aspiration Hazard	There is sufficient evidence to classify this material as an aspiration hazard

Inhaled	<p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> <p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.</p> <p>The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.</p> <p>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</p> <p>inhalation of vapour from heated material</p>
Ingestion	<p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p> <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p>
Skin Contact	<p>This material can cause inflammation of the skin on contact in some persons.</p> <p>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>Spray mist may produce discomfort</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	<p>Not considered to be a risk because of the extreme volatility of the gas.</p> <p>This material causes serious eye irritation.</p>
Chronic	<p>This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.</p> <p>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.</p> <p>Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.</p> <p>Main route of exposure to the gas in the workplace is by inhalation.</p> <p>Chronic inhalation or skin exposure to n-hexane may cause damage to nerve ends in extremities, e.g. finger, toes with loss of sensation.</p>

Shell Brake Cleaner (Aerosol)	TOXICITY	IRRITATION
	Oral (Rat) LD50: >2000 mg/kg ^[2]	Not Available
solvent naphtha petroleum, light aliphatic	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation (Rat) LC50: >4.42 mg/L4h ^[1]	Skin: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: >4500 mg/kg ^[1]	
n-hexane	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Eye (Rodent - rabbit): 10mg - Mild
	Inhalation (Rat) LC50: 48000 ppm4h ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: 28710 mg/kg ^[2]	Skin: no adverse effect observed (not irritating) ^[1]
isopropanol	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 12800 mg/kg ^[2]	Eye (Rodent - rabbit): 100mg - Severe
	Inhalation (Mouse) LC50: 53 mg/L4h ^[2]	Eye (Rodent - rabbit): 100mg/24H - Moderate
	Oral (Mouse) LD50: 3600 mg/kg ^[2]	Eye (Rodent - rabbit): 10mg - Moderate
		Eye: adverse effect observed (irritating) ^[1]
		Skin (Rodent - rabbit): 500mg - Mild
	Skin: no adverse effect observed (not irritating) ^[1]	
propane	TOXICITY	IRRITATION
	Inhalation (Rat) LC50: 364726.819 ppm4h ^[2]	Not Available
butane	TOXICITY	IRRITATION
	Inhalation (Rat) LC50: 658 mg/l4h ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
		Skin: no adverse effect observed (not irritating) ^[1]

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

Shell Brake Cleaner (Aerosol)

<p>SOLVENT NAPHTHA PETROLEUM, LIGHT ALIPHATIC</p>	<p>Most Low Boiling Point Naphthas (LBPNs) have low acute toxicity to oral, dermal and inhalation routes of exposure, and mild to moderate skin and eye irritating effects. However, some heavier 'cracked' LBPNs (LKBPNS with greater olefinic content) have been found to be more irritating to the skin and eyes compared to non-cracked LBPNs. LBPNs are not known to be sensitising to the skin.</p> <p>Animal studies examined the effects of short-term and longer-term exposure to LBPNs through inhalation or oral routes. In male rats specifically, exposure to LBPNs resulted in kidney-related issues like increased kidney weight, kidney lesions, and hyaline droplet formation. However, the same effects were not seen in female rats, mice, or humans due to a mechanism of action involving a particular enzyme only found in male rats. Limited studies found that exposure through inhalation caused an increase in liver weight in both male and female rats. Dermal exposure to one specific LBPN (light cracked naphtha) resulted in skin irritation and changes at low doses in rats. Few studies were available regarding the chronic toxicity of LBPNs, but one study exposed mice and rats to unleaded gasoline (containing 2% benzene) and found ocular and kidney effects at concentrations of 200 mg/m³ and 6170 mg/m³, respectively.</p> <p>Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.</p> <p>The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. The gut cell may play a major role in determining the proportion of hydrocarbon that becomes available to be deposited unchanged in peripheral tissues such as in the body fat stores or the liver.</p> <p>Petroleum contains aromatic (benzene, toluene, ethyl benzene, naphthalene) and aliphatic hydrocarbons (n-hexane), which can result in many detrimental health effects, including, cancer, tumour formation, hearing loss, and nervous system toxicity.</p> <p>Animal testing shows breathing in petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans. Similarly, exposure to gasoline over a lifetime can cause kidney cancer in animals, but the relevance in humans is questionable. Most studies involving gasoline have shown that gasoline does not cause genetic mutation, including all recent studies in living human subjects (such as in petrol service station attendants).</p> <p>Animal studies show concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus.</p> <p>Prolonged contact with petroleum may result in skin inflammation and make the skin more sensitive to irritation and penetration by other materials.</p>
<p>N-HEXANE</p>	<p>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p>
<p>ISOPROPANOL</p>	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.</p> <p>Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled. Intentional swallowing is common particularly among alcoholics or suicide victims and also leads to fainting, breathing difficulty, nausea, vomiting and headache. In the absence of unconsciousness, recovery usually occurred. Repeated doses may damage the kidneys.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.</p>
<p>PROPANE</p>	<p>No significant acute toxicological data identified in literature search.</p>
<p>Acute Toxicity</p>	<p>Carcinogenicity</p>
<p>Skin Irritation/Corrosion</p>	<p>Reproductivity</p>
<p>Serious Eye Damage/Irritation</p>	<p>STOT - Single Exposure</p>
<p>Respiratory or Skin sensitisation</p>	<p>STOT - Repeated Exposure</p>
<p>Mutagenicity</p>	<p>Aspiration Hazard</p>

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

SECTION 12 Ecological information

Toxicity

Shell Brake Cleaner (Aerosol)	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
solvent naphtha petroleum, light aliphatic	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	6.5mg/l	1
	EC50	96h	Algae or other aquatic plants	64mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	<0.1mg/l	1
	LC50	96h	Fish	>100000mg/L	4
n-hexane	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	4h	Algae or other aquatic plants	0.12mg/L	4
	LC50	96h	Fish	113mg/L	4

Continued...

Shell Brake Cleaner (Aerosol)

	Endpoint	Test Duration (hr)	Species	Value	Source
	isopropanol	EC50	72h	Algae or other aquatic plants	>1000mg/l
EC50		48h	Crustacea	7550mg/l	4
EC50		96h	Algae or other aquatic plants	>1000mg/l	1
EC50(ECx)		24h	Algae or other aquatic plants	0.011mg/L	4
LC50		96h	Fish	>1400mg/L	4
propane	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
butane	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	96h	Algae or other aquatic plants	7.71mg/l	2
	EC50	96h	Algae or other aquatic plants	7.71mg/l	2
	LC50	96h	Fish	24.11mg/l	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data				

Fish LC50- 1-<10 mg/l> Aquatic invertebrate- LC50- 1-<10 mg/l> Algae LC50- 1-<10 mg/l> Microorganism LC50- 1-<10 mg/l>

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
n-hexane	LOW	LOW
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
propane	LOW	LOW
butane	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
n-hexane	MEDIUM (LogKOW = 3.9)
isopropanol	LOW (LogKOW = 0.05)
propane	LOW (LogKOW = 2.36)
butane	LOW (LogKOW = 2.89)

Mobility in soil

Ingredient	Mobility
n-hexane	LOW (Log KOC = 149)
isopropanol	HIGH (Log KOC = 1.06)
propane	LOW (Log KOC = 23.74)
butane	LOW (Log KOC = 43.79)


SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ▶ 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. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Consult State Land Waste Management Authority for disposal. ▶ Discharge contents of damaged aerosol cans at an approved site. ▶ Allow small quantities to evaporate. ▶ DO NOT incinerate or puncture aerosol cans. ▶ Bury residues and emptied aerosol cans at an approved site.
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SECTION 14 Transport information

Labels Required

	
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Shell Brake Cleaner (Aerosol)

Marine Pollutant



Land transport (TDG)

14.1. UN number or ID number	1950	
14.2. UN proper shipping name	AEROSOLS, FLAMMABLE	
14.3. Transport hazard class(es)	Class	2.1
	Subsidiary Hazard	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Environmentally hazardous	
14.6. Special precautions for user	Special provisions	80, 107
	Explosive Limit and Limited Quantity Index	1 L
	ERAP Index	Not Applicable

Air transport (ICAO-IATA / DGR)

14.1. UN number	1950	
14.2. UN proper shipping name	Aerosols, flammable (engine starting fluid)	
14.3. Transport hazard class(es)	ICAO/IATA Class	2.1
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	10L
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Environmentally hazardous	
14.6. Special precautions for user	Special provisions	A1 A145 A167 A802
	Cargo Only Packing Instructions	203
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	Forbidden
	Passenger and Cargo Maximum Qty / Pack	Forbidden
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	1950	
14.2. UN proper shipping name	AEROSOLS	
14.3. Transport hazard class(es)	IMDG Class	2.1
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Marine Pollutant	
14.6. Special precautions for user	EMS Number	F-D, S-U
	Special provisions	63 190 277 327 344 381 959
	Limited Quantities	1000 ml

14.7. Maritime transport in bulk according to IMO instruments

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

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
solvent naphtha petroleum, light aliphatic	Not Applicable
n-hexane	Not Applicable
isopropanol	Not Applicable
propane	Not Applicable
butane	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
solvent naphtha petroleum, light aliphatic	Not Applicable
n-hexane	Not Applicable
isopropanol	Not Applicable
propane	Not Applicable
butane	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 Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

solvent naphtha petroleum, light aliphatic is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
 Canada Domestic Substances List (DSL)
 Chemical Footprint Project - Chemicals of High Concern List

n-hexane 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
 Chemical Footprint Project - Chemicals of High Concern List

isopropanol 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
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

propane 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

butane 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
 Chemical Footprint Project - Chemicals of High Concern List

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (solvent naphtha petroleum, light aliphatic; n-hexane; isopropanol; propane; butane)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
UAE - Control List (Banned/Restricted Substances)	No (solvent naphtha petroleum, light aliphatic; n-hexane; isopropanol; propane; butane)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	06/05/2026
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Initial Date	09/12/2019
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SDS Version Summary

Version	Date of Update	Sections Updated
4.1	10/03/2023	Classification change due to full database hazard calculation/update.
4.2	06/05/2026	Identification of the substance / mixture and of the company / undertaking - Supplier Information

Other information

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

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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
- ▶ ES: Exposure Standard
- ▶ 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
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code

- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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