MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **ENGINE BRITE GEL**

Product Use : Cleaner / Degreaser.
Chemical Family : Mixture.
Manufacturer part no. : EBGELC

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:
Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)
24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

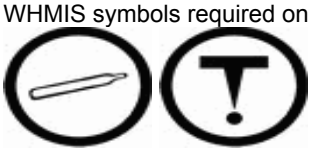
SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR).

WHMIS classification:
Class A (Pressurized containers);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.

WHMIS symbols required on a supplier label:



Emergency Overview : Grey liquid.Aerosol spray. Petroleum odour.
WARNING! Contents under pressure. Container may explode if heated. May be harmful or fatal if swallowed in large amounts. May be an aspiration hazard. May be harmful if inhaled. May cause nausea, vomiting, headache and other central nervous system effects. Causes eye, skin and respiratory irritation. May cause skin sensitization. Contains material which may cause cancer, based on animal data.

Contains material that may be harmful in the environment.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

Skin : May cause moderate skin irritation. Can be absorbed through skin. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Eyes : May cause eye irritation. If product is sprayed directly into the eyes, could cause freezing of the eye.

Ingestion : Not an expected route of entry under normal conditions of use. However, if the product is sprayed directly into mouth and large amounts of the liquid concentrate are swallowed, it may cause irritation to the mouth, throat and stomach. Ingestion may cause symptoms similar to inhalation. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Effects of long-term (chronic) exposure
: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Repeated or prolonged exposure may result in kidney effects.

Carcinogenic status : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : Possible sensitizer. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: Contains material that may be harmful in the environment. See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Distillates (petroleum), hydrotreated light	64742-47-8	60.00 - 100.00
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	5.00 - 9.00
Polyoxyethylene Sorbitol Hexaoleate	57171-56-9	3.00 - 7.00
Carbon dioxide	124-38-9	1.00 - 5.00
d-Limonene	5989-27-5	1.00 - 5.00
Tripropylene glycol methyl ether	25498-49-1	1.00 - 5.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if symptoms persist.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash exposed area thoroughly with soap and water for at least 15 minutes. Get medical attention if symptoms persist.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

Notes For Physician : Immediate medical attention is required. May be an aspiration hazard. Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Non-flammable aerosol. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Product may float, and be re-ignited at the water's surface.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling. Aerosols are sensitive to mechanical impact. Contents under pressure.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Shield personnel to protect from venting or rupturing containers. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Nitrogen oxides (NOx); Sulphur oxides; Hydrocarbons; Aldehydes; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture, incinerate or expose to heat even when empty. Wash thoroughly after handling. Always replace cap after use.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking in the area. Inspect periodically for damage or leaks.

Incompatible materials : Strong oxidizing agents; Strong acids .

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Distillates (petroleum), hydrotreated light	200 mg/m³ (as total hydrocarbon vapour)	N/Av	N/Av	N/Av
Solvent naphtha (petroleum), heavy aromatic	N/Av	N/Av	500 ppm (2000 mg/m³) (as petroleum distillates, naphtha)	N/Av
Polyoxyethylene Sorbitol Hexaoleate	N/Av	N/Av	N/Av	N/Av
Carbon dioxide	5000 ppm	30 000 ppm	5000 ppm (9000 mg/m³)	N/Av
d-Limonene	30 ppm (AIHA WEEL)	N/Av	N/Av	N/Av
Tripropylene glycol methyl ether	N/Av	N/Av	N/Av	N/Av

Ventilation and engineering measures
: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection : Chemical splash goggles are recommended.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations
: Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, smoke or use cosmetics while working with this product. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Aerosol
Appearance : Grey liquid
Odour : Petroleum odour.
Odour threshold : N/Av
pH : N/Av
Boiling point : 158.9°C
Specific gravity : 0.88

Melting/Freezing point : N/Av
Coefficient of water/oil distribution : N/Av
Vapour pressure (mmHg @ 20° C / 68° F) : N/Av
Solubility in water : Emulsifies
Vapour density (Air = 1) : N/Av
Evaporation rate (n-Butyl acetate = 1) : N/Av
Volatile organic Compounds (VOC's) : N/Av
Volatiles (% by weight) : < 10%
Flash point : 87.8°C (liquid)
Flash point Method : Tag closed cup
Auto-ignition temperature : N/Av
Lower flammable limit (% by vol.) : N/Av
Upper flammable limit (% by vol.) : N/Av
Flame Projection Length : None.
Flashback observed : NO
Absolute pressure of container : 655 kPa @ 54.4°C
Viscosity : < 19 cSt @ 40°C (concentrate) (estimated)
General Information : Chemical heat of combustion: 35.4 kJ/g

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization : Hazardous polymerization does not occur.
Conditions to avoid : Avoid heat and open flame. Ensure adequate ventilation, especially in confined areas. Keep away from direct sunlight.
Materials To Avoid And Incompatibility : Strong oxidizing agents; Strong acids
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, digestive system, central nervous system. Kidneys
Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
Irritancy : moderate primary irritant
Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Distillates (petroleum), hydrotreated light	> 5.2 mg/L (aerosol) (No mortality)	> 5000 mg/kg	> 2000 mg/kg (No mortality)
Solvent naphtha (petroleum), heavy aromatic	> 17.1 mg/L (mist)	> 6000 mg/kg	> 3160 mg/kg
Polyoxyethylene Sorbitol Hexaoleate	N/Av	16 000 mg/kg	N/Av
Carbon dioxide	200 000 ppm/2H (141 421 ppm/4H)	N/Ap(gas)	N/Ap(gas)
d-Limonene	N/Av	4400 mg/kg	> 5000 mg/kg
Tripropylene glycol methyl ether	> 50 mg/L (aerosol)	3100 - 3900 mg/kg	15 440 mg/kg

Carcinogenic status : Contains the following chemicals listed as confirmed animal carcinogens (A3) by ACGIH: Hydrotreated light petroleum distillates.
No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.
Reproductive effects : Not expected to cause reproductive effects.
Teratogenicity : Not expected to be a teratogen.
Mutagenicity : Not expected to be mutagenic in humans.
Epidemiology : None known or reported by the manufacturer.
Sensitization to material : Contains a chemical, or chemicals, which may cause skin sensitization. This product contains: d-Limonene. May cause an allergic skin reaction (e.g. swelling, rash and eczema).
No data available to indicate product or components may be respiratory sensitizers.
Synergistic materials : None known or reported by the manufacturer.

other important hazards : CNS depression may result from extreme exposures.

Conditions aggravated by overexposure
: Pre-existing skin, eye and respiratory disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: Hydrotreated light petroleum distillates; Solvent naphtha (petroleum), heavy aromatic; d-Limonene.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Distillates (petroleum), hydrotreated light	64742-47-8	N/Av	N/Av	None.
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	3.6 mg/L (Rainbow trout)	N/Av	None.
Polyoxyethylene Sorbitol Hexaoleate	57171-56-9	N/Av	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap
d-Limonene	5989-27-5	0.72 mg/L (Fathead minnow)	N/Av	1
Tripropylene glycol methyl ether	25498-49-1	11 619 mg/L (Fathead minnow)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Distillates (petroleum), hydrotreated light	64742-47-8	N/Av	N/Av	None.
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	1.1 mg/L (Daphnia magna)	N/Av	None.
Polyoxyethylene Sorbitol Hexaoleate	57171-56-9	N/Av	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap
d-Limonene	5989-27-5	0.36 mg/L (Daphnia magna)	N/Av	1
Tripropylene glycol methyl ether	25498-49-1	> 10 000 mg/L (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Distillates (petroleum), hydrotreated light	64742-47-8	N/Av	N/Av	None.
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	7.2 mg/L/72hr (Green algae)	0.22 mg/L/72hr	None.
Polyoxyethylene Sorbitol Hexaoleate	57171-56-9	N/Av	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap
d-Limonene	5989-27-5	N/Av	N/Av	None.
Tripropylene glycol methyl ether	25498-49-1	21 010 mg/L/96hr (Green algae)	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
Contains the following chemicals which are not readily biodegradable: Hydrotreated light paraffinic distillate; Solvent naphtha (petroleum), heavy aromatic.
The following ingredients are considered to be readily biodegradable: d-Limonene.

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

Components	Partition coefficent n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	5.1 - 8.8	N/Av
Solvent naphtha (petroleum), heavy aromatic (CAS 64742-94-5)	> 3, < 6.5	N/Av
d-Limonene (CAS 5989-27-5)	4.57	660
Tripropylene glycol methyl ether (CAS 25498-49-1)	0.309	3.16

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Do not puncture or incinerate containers.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.1	None	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

WARNING! Contents under pressure. Container may explode if heated. May be harmful or fatal if swallowed in large amounts. May be an aspiration hazard. May be harmful if inhaled. May cause nausea, vomiting, headache and other central nervous system effects. Causes eye, skin and respiratory irritation. Contains material which may cause cancer, based on animal data. May cause skin sensitization.

PRECAUTIONS: Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture, incinerate or expose to heat even when empty. Wash thoroughly after handling. Store in a cool, dry, well-ventilated area away from sources of heat, ignition and sunlight.

FIRST AID: If inhaled, move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if symptoms persist. For skin contact, immediately remove contaminated clothing then wash thoroughly with soap and water for at least 15 minutes. Get medical attention if symptoms persist. For eye contact, flush with running water for at least 15 minutes. Get medical attention if symptoms persist. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Seek immediate medical attention/advice.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
CAS: Chemical Abstract Services
CNS: Central Nervous System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WEEL: Workplace Environmental Exposure Level
WHMIS: Workplace Hazardous Materials Identification System
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References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2017.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2017 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.

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Revision Information : (M)SDS sections updated:
12. ECOLOGICAL INFORMATION

END OF DOCUMENT