

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **GUNK ENGINE CLEANER & DEGREASER**

Product Use : Cleaner / Degreaser.

Chemical Family : Mixture.

Manufacturer part no. : EBT32C

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 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 : Light yellow. Citrus odour.
WARNING!
 May be harmful if inhaled or swallowed. May cause irritation of the nose, throat, mucous membranes, and respiratory tract. May cause skin irritation. May cause serious eye irritation or damage.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

- Inhalation* : May cause irritation to the nose, throat and upper respiratory tract.
- Skin* : May cause mild to moderate skin irritation. Exposure may cause temporary irritation, redness or discomfort. Can be absorbed through skin.
- Eyes* : May cause moderate to severe eye irritation. Contact may cause redness, swelling and a painful sensation. Prolonged exposure may cause eye damage.
- Ingestion* : May cause irritation of mouth, throat, and stomach. Symptoms include nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

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 : See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

- : See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Diethylene glycol monobutyl ether	112-34-5	1.00 - 5.00
Alcohols, C9-11, ethoxylated	68439-46-3	1.00 - 5.00
Butyl 3-hydroxybutyrate	53605-94-0	1.00 - 5.00

SECTION 4 - FIRST AID MEASURES

- Inhalation** : If inhaled, move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. If irritation or symptoms develop, seek medical attention.
- Skin contact** : For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. Get medical attention if symptoms persist. Wash contaminated clothing before re-use.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.
- Notes For Physician** : Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES**Fire hazards/conditions of flammability**

- : Not considered flammable. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Oxidizing properties

- : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

- : Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

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. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

- : Carbon oxides; Nitrogen oxides (NOx); Ammonia; formaldehyde; 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

- : None known or reported by the manufacturer.

SECTION 7 - HANDLING AND STORAGE**Safe Handling procedures**

- : Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Wash thoroughly after handling.

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. Inspect periodically for damage or leaks.

- Incompatible materials** : Strong oxidizing agents; Strong acids; Strong bases; Amines
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

<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Diethylene glycol monobutyl ether	10 ppm (inhalable) (vapor)	N/Av	N/Av	N/Av
Alcohols, C9-11, ethoxylated	N/Av	N/Av	N/Av	N/Av
Butyl 3-hydroxybutyrate	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

- : Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid.	Appearance	: light yellow
Odour	: Citrus odour.	Odour threshold	: N/Av
pH	: 8.3		
Boiling point	: 100°C	Specific gravity	: 1.01
Melting/Freezing point	: 0°C	Coefficient of water/oil distribution	: N/Av
Vapour pressure (mmHg @ 20° C / 68° F)	: N/Av	Solubility in water	: Complete
Vapour density (Air = 1)	: N/Av	Evaporation rate (n-Butyl acetate = 1)	: N/Av
Volatile organic Compounds (VOC's)	: 3.5% (Weight percent)	Volatiles (% by weight)	: 92.87%
Flash point	: None.		
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	: N/Av	Flashback observed	: N/Av
Absolute pressure of container	: N/Av	Viscosity	: N/Av

General Information : No additional information.

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. Avoid contact with incompatible materials.

Materials To Avoid And Incompatibility

: Strong oxidizing agents; Strong acids; Strong bases; Amines

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:* NO *Skin & Eyes:* YES *Ingestion:* YES

Irritancy : Moderate to severe eye irritant. Moderate skin irritant.

Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Ingredients</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Diethylene glycol monobutyl ether	N/Av	6560 mg/kg	2764 mg/kg
Alcohols, C9-11, ethoxylated	N/Av	1378 mg/kg	> 2000 mg/kg (No mortality)
Butyl 3-hydroxybutyrate	> 5 mg/L (mist)	> 5000 mg/kg	> 5000 mg/kg

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, 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** : Not expected to be a skin or respiratory sensitizer.**Synergistic materials** : None known or reported by the manufacturer.**other important hazards** : None known or reported by the manufacturer.**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.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Diethylene glycol monobutyl ether	112-34-5	1300 mg/L (Bluegill sunfish)	N/Av	None.
Alcohols, C9-11, ethoxylated	68439-46-3	8.5 mg/L (Fathead minnow)	N/Av	None.
Butyl 3-hydroxybutyrate	53605-94-0	> 100 mg/L (Rainbow trout)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Diethylene glycol monobutyl ether	112-34-5	> 100 mg/L (Daphnia magna)	N/Av	None.
Alcohols, C9-11, ethoxylated	68439-46-3	5.3 mg/L (Daphnia magna)	N/Av	None.
Butyl 3-hydroxybutyrate	53605-94-0	> 100 mg/L (Daphnia magna)	N/Av	N/Av

<u>Ingredients</u>	CAS No	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Diethylene glycol monobutyl ether	112-34-5	> 100 mg/L/96hr (Green algae)	N/Av	None.
Alcohols, C9-11, ethoxylated	68439-46-3	N/Av	N/Av	None.
Butyl 3-hydroxybutyrate	53605-94-0	> 100 mg/L/72hr (Green algae)	N/Av	None.

- Mobility** : No data is available on the product itself.
- Persistence** : No data is available on the product itself.
The following ingredients are considered to be readily biodegradable: Diethylene glycol monobutyl ether; Surfactant; Butyl 3-hydroxybutyrate.
- Bioaccumulation potential** : No data is available on the product itself. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Diethylene glycol monobutyl ether (CAS 112-34-5)	1.0	3.0
Alcohols, C9-11, ethoxylated (CAS 68439-46-3)	3.77 - 4.72	N/Av

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. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Follow labeled warnings even after container is emptied.
- Methods of Disposal** : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANSPORT INFORMATION

<u>Regulatory Information</u>	<u>UN Number</u>	<u>Shipping Name</u>	<u>Class</u>	<u>Packing Group</u>	<u>Label</u>
TDG	None.	Not regulated.	Not regulated	None	
TDG Additional information	None.				

SECTION 15 - REGULATORY INFORMATION**Labelling:**

WARNING! May be harmful if inhaled or swallowed. May cause irritation of the nose, throat, mucous membranes, and respiratory tract. May cause skin irritation. May cause serious eye irritation or damage.

PRECAUTIONS: Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. 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. If irritation or symptoms develop, seek medical attention. For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. Get medical attention if symptoms persist. For eye contact, flush with running water for at least 15 minutes. Get medical attention. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.

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
- NOEC: No observable effect concentration
- NTP: National Toxicology Program
- OECD: Organisation for Economic Co-operation and Development
- 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

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 2016.
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

<p><u>Prepared for:</u> Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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: 04/14/2016

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: 2

Revision Information

: (M)SDS sections updated:
3. COMPOSITION/INFORMATION ON INGREDIENTS;
8. EXPOSURE CONTROLS / PERSONAL PROTECTION;
11. TOXICOLOGICAL INFORMATION;
12. ECOLOGICAL INFORMATION

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