

MATERIAL SAFETY DATA SHEET**SECTION 1: IDENTIFICATION****Product identifier** : **BUG REMOVER WITH WAX****Product Use** : Automotive - Cleaner.**Chemical Family** : Mixture.**Manufacturer part no.** : BUG33C**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**

: Green liquid. Mild odour.

Warning!

May be harmful if inhaled or swallowed. May be harmful if absorbed through the skin. May cause respiratory irritation. Exposure to high vapour concentration can cause dizziness, nausea and central nervous system depression. Causes eye irritation. Prolonged or repeated skin contact may cause drying and irritation.

POTENTIAL HEALTH EFFECTS:**Signs and symptoms of short-term (acute) exposure***Inhalation* : May cause irritation to the nose, throat and upper respiratory tract. Exposure to high vapour concentration can cause dizziness, nausea and central nervous system depression.*Skin* : May cause mild skin irritation on prolonged contact. May be absorbed and cause symptoms similar to those for inhalation.*Eyes* : May cause moderate to severe eye irritation. Symptoms may include stinging and tearing.*Ingestion* : May cause irritation of mouth, throat, and stomach. Ingestion may cause symptoms similar to inhalation.**Effects of long-term (chronic) exposure**

: Prolonged or repeated skin contact may cause irritation, defatting or dermatitis (rash).

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.**Additional health hazards** : See TOXICOLOGICAL INFORMATION, Section 11.**Potential environmental effects**

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Dipropylene glycol methyl ether	34590-94-8	3.00 - 7.00
Dodecylbenzenesulfonic acid	27176-87-0	1.00 - 5.00
sodium hydroxide	1310-73-2	0.10 - 1.00

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. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact** : Remove/Take off immediately all contaminated clothing. In case of contact, immediately flush skin with plenty of water for at least 15 minutes. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before re-use.
- Eye contact** : Immediately flush eyes with running water for at least 15 minutes. Get medical attention.
- Ingestion** : Do not induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Get medical attention if symptoms persist. Never give anything by mouth to an unconscious person.
- Notes For Physician** : Treat symptomatically.

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

- : Not flammable under normal conditions of use. 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; Sulfur oxides; Sodium oxides; Silicon oxides; formaldehyde.

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.

SECTION 7 - HANDLING AND STORAGE

- Safe Handling procedures** : Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Wash thoroughly after handling. Keep container tightly closed when not in use.
- Storage requirements** : Store in a cool, dry, well-ventilated area. Keep away from direct sunlight. Keep away from incompatibles. Inspect periodically for damage or leaks.
- Incompatible materials** : Strong oxidizing agents; Strong acids; Strong bases.

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

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

<u>Exposure Limits</u>				
<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Dipropylene glycol methyl ether	100 ppm (skin)	150 ppm (skin)	100 ppm (skin)	N/Av
Dodecylbenzenesulfonic acid	N/Av	N/Av	N/Av	N/Av
sodium hydroxide	2 mg/m ³ (Ceiling)	N/Av	2 mg/m ³	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

- : Gloves impervious to the material are recommended. 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

- : Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Do not eat, drink, smoke or use cosmetics while working with this product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid.	Appearance	: Green liquid.
Odour	: Mild odour.	Odour threshold	: N/Av
pH	: 6.0 - 8.0		
Boiling point	: 100°C	Specific gravity	: 1.01
Melting/Freezing point	: N/Av	Coefficient of water/oil distribution	: N/Av
Vapour pressure (mmHg @ 20° C / 68° F)	: N/Av	Solubility in water	: Soluble
Vapour density (Air = 1)	: N/Av	Evaporation rate (n-Butyl acetate = 1)	: < 1
Volatile organic Compounds (VOC's)	: N/Av	Volatiles (% by weight)	: < 5%
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. After prolonged storage, may release explosive peroxides in the presence of air. Exposure to sunlight accelerates decomposition. Rate of peroxide formation is not known.
Hazardous polymerization	: Hazardous polymerization does not occur.
Conditions to avoid	: Avoid heat and open flame. Keep away from direct sunlight. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Materials To Avoid And Incompatibility	: Strong oxidizing agents; Strong acids; Strong bases.

Hazardous decomposition products

: Peroxides Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, digestive system, central nervous system.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES

Irritancy : Mild skin irritant. Moderate eye 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>	LC₅₀(4hr) <u>inh, rat</u>	LD₅₀	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Dipropylene glycol methyl ether	> 3 mg/L (mist) (No mortality)	5120 mg/kg	9480 mg/kg
Dodecylbenzenesulfonic acid	N/Av	650 mg/kg	2000 mg/kg
sodium hydroxide	N/Av	N/Av	N/Av

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.

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

Conditions aggravated by overexposure : Pre-existing eye, skin, respiratory, liver, kidney and central nervous system disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. Contains: Dodecylbenzenesulfonic acid; sodium hydroxide. Toxicity is primarily associated with pH.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Dipropylene glycol methyl ether	34590-94-8	> 10 000 mg/L (Fathead minnow)	N/Av	None.
Dodecylbenzenesulfonic acid	27176-87-0	3.2 - 5.6 mg/L (Rainbow trout)	N/Av	None.
sodium hydroxide	1310-73-2	125 mg/L (Mosquito fish)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Dipropylene glycol methyl ether	34590-94-8	1919 mg/L (Daphnia magna)	≥ 0.5 mg/L (22 days)	None.
Dodecylbenzenesulfonic acid	27176-87-0	3.5 mg/L (Daphnia magna)	1.65 mg/L	None.
sodium hydroxide	1310-73-2	40.4 mg/L (Daphnia magna)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Dipropylene glycol methyl ether	34590-94-8	> 969 mg/L/72hr (Green algae)	N/Av	None.
Dodecylbenzenesulfonic acid	27176-87-0	65.4 mg/L/72hr (Green algae)	7.9 mg/L/72hr	None.
sodium hydroxide	1310-73-2	N/Av	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
 Contains: Dodecylbenzenesulfonic acid; Dipropylene glycol methyl ether.
 Dodecylbenzenesulfonic acid is considered to be readily biodegradable.
 Dipropylene glycol methyl ether is considered to be readily biodegradable.

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>
Dipropylene glycol methyl ether (CAS 34590-94-8)	0.0061	< 1
Dodecylbenzenesulfonic acid (CAS 27176-87-0)	1.96	36 - 119

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.

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

SECTION 14: TRANSPORT INFORMATION

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

SECTION 15 - REGULATORY INFORMATION

Labelling:

Warning! May be harmful if absorbed through the skin. May be harmful if inhaled or swallowed. May cause respiratory irritation. Exposure to high vapour concentration can cause dizziness, nausea and central nervous system depression. Causes eye irritation. Prolonged or repeated skin contact may cause drying and irritation.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing 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 heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing stops, provide artificial respiration. Get medical attention if symptoms persist. For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. If irritation persists, seek prompt medical attention. For eye contact, flush with running water for at least 15 minutes. Get medical attention if symptoms persist. If ingested, do not induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. 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
 - 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/Av: 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
 - 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

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MSDS Preparation Date (mm/dd/yyyy)

: 08/03/2007

MSDS Revision Date (mm/dd/yyyy)

: 06/22/2016

Revision No.

: 5

Revision Information

: (M)SDS sections updated:
11. TOXICOLOGICAL INFORMATION;
12. ECOLOGICAL INFORMATION.

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