

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **ENGINE-BRITE AEROSOL**

Product Use : Cleaning automotive, marine and other engine parts.

Chemical Family : Mixture.

Manufacturer part no. : EB1C

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 : Amber aerosol spray. Petroleum odour.
WARNING! Contents under pressure. Containers may explode if heated. Harmful by inhalation and in contact with skin. Harmful or fatal if swallowed. Can enter the lungs and cause damage. May cause nausea, vomiting, headache and other central nervous system effects. Causes skin and eye irritation. May cause respiratory irritation. Contains material which can cause damage to the blood system, the liver and the kidneys. Possible birth defect hazard - contains material that may cause birth defects, based on animal data. 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. Inhalation in very high concentrations may result in blood system effects, such as red blood cell fragility.
- Skin* : May cause moderate skin irritation. May be absorbed and cause symptoms similar to those for inhalation.
- Eyes* : Causes severe eye irritation. May cause burning sensation, redness and tearing (watering).
- Ingestion* : May cause severe 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 or repeated contact may cause drying, cracking and defatting of the skin. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.
- Contains: 2-butoxyethanol. Chronic overexposure to 2-butoxyethanol may cause liver, kidney and blood damage. Effects appear to be species specific. Humans are less sensitive to these effects.

Carcinogenic status

- : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards

- : May cause birth defects. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

- : Contains material that may be harmful in the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Petroleum distillates	68476-34-6	60.00 - 100.00
Petroleum naphtha	64742-94-5	1.00 - 5.00
Carbon dioxide	124-38-9	1.00 - 5.00
Petroleum sulfonate	78330-12-8	1.00 - 5.00
Naphthalene	91-20-3	1.00 - 5.00
2-butoxyethanol	111-76-2	0.10 - 1.00
Dodecylbenzene isopropylamine sulfonate	26264-05-1	0.10 - 1.00
1,2,4-Trimethylbenzene	95-63-6	0.10 - 1.00
Xylene	1330-20-7	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. Get medical attention.

Skin contact

- : Remove/Take off immediately all contaminated clothing. Wash off immediately with plenty of 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. Seek immediate medical attention/advice.

Ingestion

- : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes For Physician

- : Treat symptomatically.

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

- : Non-flammable aerosol. This product was tested in accordance with the Controlled Products Regulations (CPR), and was found to have no flame projection at all, and no observable flashback. As intended for a workplace, then, this product is considered to be a non-flammable aerosol. Contents under pressure. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Vapours are heavier than air and collect in confined and low-lying areas.

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

- : 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. Water spray may be useful in cooling equipment exposed to heat and flame. Shield personnel to protect from venting or rupturing containers.

Hazardous combustion products

- : Carbon oxides; Nitrogen oxides (NOx); Sulphur oxides; Nitrogen oxides (NOx); Phosphorus oxides; Polycyclic aromatic hydrocarbons; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions** : All persons dealing with the clean-up should wear the appropriate personal 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. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Do not puncture, incinerate or expose to heat even when empty. Avoid contact with incompatible materials. 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. Inspect periodically for damage or leaks. No smoking in the area.
- Incompatible materials** : Bases; Strong oxidizing agents; Acids; Alkali metals.
- 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>
Petroleum distillates	100 mg/m ³ (vapor and aerosol, as total hydrocarbons) (skin)	N/Av	N/Av	N/Av
Petroleum naphtha	N/Av	N/Av	500 ppm (2000 mg/m ³) (as petroleum distillates, naphtha)	N/Av
Carbon dioxide	5000 ppm	30 000 ppm	5000 ppm (9000 mg/m ³)	N/Av
Petroleum sulfonate	N/Av	N/Av	N/Av	N/Av
Naphthalene	10 ppm (skin)	N/Av	10 ppm (50 mg/m ³)	N/Av
2-butoxyethanol	20 ppm	N/Av	50 ppm (240 mg/m ³) (skin)	N/Av
Dodecylbenzene isopropylamine sulfonate	N/Av	N/Av	N/Av	N/Av
1,2,4-Trimethylbenzene	25 ppm (mixed isomers)	N/Av	25 ppm (trimethylbenzene isomers) (final rule limit)	N/Av
Xylene	100 ppm	150 ppm	100 ppm (435 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** : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Wear resistant clothing and boots.
- 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. 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 | : Liquid aerosol. | Appearance | : Amber liquid. (concentrate) |
| Odour | : Petroleum odour. | Odour threshold | : N/Av |
| pH | : N/Av | | |
| Boiling point | : 151.7°C | Specific gravity | : 0.86 |
| 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) | : 1.2 | Evaporation rate (n-Butyl acetate = 1) | : N/Av |
| Volatile organic Compounds (VOC's) | : N/Av | Volatiles (% by weight) | : < 15% |
| Flash point | : 73.9°C (concentrate) | | |
| 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 detected. | Flashback observed | : NO |
| 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. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.
- Materials To Avoid And Incompatibility** : Oxidizing agents; Acids; Bases; Alkali metals.
- Hazardous decomposition products** : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

- Target organs** : Eyes, skin, respiratory system, central nervous system, blood system, liver and kidneys.
- Routes of exposure** : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
- Irritancy** : May cause moderate to severe skin irritation. Severe 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.

Ingredients	LC₅₀ (4hr)	LD₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
Petroleum distillates	> 4.81, < 6 mg/L (aerosol)	7600 mg/kg	> 4300 mg/kg
Petroleum naphtha	> 17.1 mg/L (mist)	> 6000 mg/kg	> 3160 mg/kg
Carbon dioxide	200 000 ppm/2H (141 421 ppm/4H)	N/Av(gas)	N/Av(gas)

Petroleum sulfonate	N/Av	> 5000 mg/kg	> 2000 mg/kg
Naphthalene	N/Av	490 mg/kg (rat) 533 mg/kg (mouse)	> 20 000 mg/kg
2-butoxyethanol	450 ppm (2.175 mg/L) (vapour)	530 mg/kg	400 - 500 mg/kg
Dodecylbenzene isopropylamine sulfonate	N/Av	1300 mg/kg	N/Av
1,2,4-Trimethylbenzene	18 mg/L (vapour)	5000 mg/kg	> 3160 mg/kg
Xylene	6350 ppm (27.6 mg/L) (vapour)	3253 mg/kg	12 180 mg/kg

Carcinogenic status : Contains the following chemicals listed as confirmed animal carcinogens (A3) by ACGIH: 2-butoxyethanol; Petroleum distillates. Contains Naphthalene. Naphthalene is classified as carcinogenic by IARC (Group 2B) and NTP (Group 2 - Reasonably anticipated).

Reproductive effects : Not expected to cause reproductive effects.

Teratogenicity : This product contains Xylene. Xylene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.

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 : CNS depression may result from extreme exposures.

Conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory or blood system disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : Toxic to aquatic life with long lasting effects. 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. This product contains the following substance which may also be hazardous for the environment: petroleum distillates; Petroleum naphtha; Naphthalene; Dodecylbenzene isopropylamine sulfonate; 1,2,4-Trimethylbenzene; Xylene.

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
Petroleum distillates	68476-34-6	57 mg/L (Fathead minnow)	N/Av	None.
Petroleum naphtha	64742-94-5	3.6 mg/L (Rainbow trout)	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap
Petroleum sulfonate	78330-12-8	N/Av	N/Av	None.
Naphthalene	91-20-3	0.96 mg/L (pink salmon)	0.12 mg/L/40 days	1
2-butoxyethanol	111-76-2	1490 mg/L (Bluegill sunfish)	> 100 mg/L (Zebra fish)	None.
Dodecylbenzene isopropylamine sulfonate	26264-05-1	22 mg/L (Fathead minnow)	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	7.72 mg/L (Fathead minnow)	N/Av	None.
Xylene	1330-20-7	8.2 mg/L (Rainbow trout)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Petroleum distillates	68476-34-6	68 mg/L (Daphnia magna)	0.2 mg/L	None.
Petroleum naphtha	64742-94-5	1.1 mg/L (Daphnia magna)	N/Av	None.
Carbon dioxide	124-38-9	N/Av	N/Av	N/Av
Petroleum sulfonate	78330-12-8	N/Av	N/Av	None.
Naphthalene	91-20-3	3.4 mg/L (Daphnia magna)	0.22 - 0.6 mg/L	None.
2-butoxyethanol	111-76-2	835 mg/L (Daphnia magna)	100 mg/L	None.
Dodecylbenzene isopropylamine sulfonate	26264-05-1	2.5 mg/L (Daphnia magna)	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	3.6 mg/L (Daphnia magna)	N/Av	None.
Xylene	1330-20-7	3.2 - 9.56 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
Petroleum distillates	68476-34-6	> 10 mg/L/72hr (Green algae)	1 mg/L/72hr	None.
Petroleum naphtha	64742-94-5	7.2 mg/L/72hr (Green algae)	0.22 mg/L/72hr	None.
Carbon dioxide	124-38-9	N/Av	N/Av	N/Av
Petroleum sulfonate	78330-12-8	N/Av	N/Av	None.
Naphthalene	91-20-3	0.4 mg/L/72hr (Skeletonema costatum)	N/Av	1
2-butoxyethanol	111-76-2	911 mg/L/72hr (Green algae)	286 mg/L/72hr	None.
Dodecylbenzene isopropylamine sulfonate	26264-05-1	70 mg/L/96hr	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	2.356 mg/L/96hr (Green algae) (QSAR)	N/Av	None.
Xylene	1330-20-7	3.2 - 4.9 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.
 Contains the following chemicals which are not readily biodegradable: Petroleum naphtha; Naphthalene; 1,2,4-Trimethylbenzene.
 Contains the following chemicals which are considered to be inherently biodegradable: Xylene.
 The following ingredients are considered to be readily biodegradable: Petroleum distillates; 2-butoxyethanol; Dodecylbenzene isopropylamine sulfonate.

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>
Petroleum distillates (CAS 68476-34-6)	3.9 - 6	N/Av
Petroleum naphtha (CAS 64742-94-5)	> 3, < 6.5	N/Av
Carbon dioxide (CAS 124-38-9)		no bioaccumulation
Naphthalene (CAS 91-20-3)	3.7	427 (Fathead minnow)
2-butoxyethanol (CAS 111-76-2)	0.8	0.97
Dodecylbenzene isopropylamine sulfonate (CAS 26264-05-1)	6.18	N/Av
1,2,4-Trimethylbenzene (CAS 95-63-6)	3.78	31 - 275
Xylene (CAS 1330-20-7)	3.12 - 3.2	50 - 58

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 cut, weld, drill or grind on or near this container. Do not puncture or incinerate containers.

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	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. Harmful by inhalation and in contact with skin. Harmful or fatal if swallowed. Can enter the lungs and cause damage. May cause nausea, vomiting, headache and other central nervous system effects. Causes skin and eye irritation. May cause respiratory irritation. Contains material which can cause damage to the blood system, the liver and the kidneys. Possible birth defect hazard - contains material that may cause birth defects, based on animal data. Contains material which may cause cancer, based on animal data.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Do not puncture, incinerate or expose to heat even when empty. 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. Get medical attention if symptoms persist. 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. Seek immediate medical attention/advice. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. 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
 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
 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>Prepared for: 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>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER OF LIABILITY

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MSDS Preparation Date (mm/dd/yyyy)

: 07/25/2007

MSDS Revision Date (mm/dd/yyyy)

: 06/27/2016

Revision No.

: 5

Revision Information

: (M)SDS sections updated:
2. HAZARDS IDENTIFICATION (Chronic exposure);
11. TOXICOLOGICAL INFORMATION;
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT