

160-097

BATTERY TERMINAL CLEANER

BTC4C

MSDS Preparation Date (dd/mm/yyyy): 02/08/2007

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MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier : BATTERY TERMINAL CLEANER
Product Use : Cleans battery terminals, connectors, battery tray, and holder bolts and brackets
Chemical Family : Mixture
Manufacturer part no. : BTC4C
Supplier's name and address: Radiator Specialty Co., of Canada
 1711 Almco Blvd
 Mississauga, ON, Canada
 L4W 1H7
24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

Manufacturer's name and address:
 Refer to Supplier

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt. %	LC ₅₀ (4hr)	LD ₅₀	
			(Rat, inh.)	(Oral, rat)	(Rabbit, dermal)
2-butoxyethanol	111-76-2	1.00 - 3.00	450 ppm	470 mg/kg	400 mg/kg
Butane	108-97-8	1.00 - 5.00	276,000 ppm	N/Ap	N/Ap
Propane	74-98-6	1.00 - 3.00	N/Av	N/Ap	N/Ap

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Foamy spray white Mild odour
 Warning! Contents under pressure. POISON! May be fatal if inhaled
 Harmful if absorbed through the skin Harmful or fatal if swallowed
 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.
 Contains material which may cause cancer, based on animal data

POTENTIAL HEALTH EFFECTS

Target organs : Eyes, skin, respiratory system, central nervous system, blood system, liver, brain and kidneys
Routes of exposure : Inhalation YES Skin Absorption: YES Skin & Eyes YES Ingestion: YES
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 Liver and kidney injuries may occur. May result in unconsciousness and possibly death
Skin : May cause moderate to severe skin irritation May be absorbed and cause symptoms similar to those for inhalation If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching
Eyes : Causes severe eye irritation. May cause burning sensation, redness and tearing (watering). If product is sprayed directly into the eyes, could cause freezing of the eye
Ingestion : May cause severe irritation to the mouth, throat and stomach Ingestion may cause symptoms similar to inhalation

Potential chronic health effects

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin
 Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood

Other important hazards : Possible cancer hazard See TOXICOLOGICAL INFORMATION, Section 11.

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. Seek immediate medical attention/advice.
- Skin contact** : Remove/Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Seek immediate medical attention/advice.
- 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.

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.
- Flash point** : N/Av
- Flash point Method** : N/Av **Auto-ignition temperature** : N/Av
- Lower flammable limit (% by vol.)** : N/Av **Upper flammable limit (% by vol.)** : N/Av
- Oxidizing properties** : None known
- Flame Projection Length** : None. **Flashback observed** : NO

Explosion data: Sensitivity to mechanical impact / static discharge

- Aerosols are sensitive to mechanical impact. Contents under pressure. Will not accumulate static charge.
- 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. Shield personnel to protect from venting or rupturing containers.

Hazardous combustion products

- Carbon oxides; other unidentified organic compounds

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Personal precautions** : All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up.
- 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 vapour or mist. Avoid contact with skin, eyes and clothing. Keep away from heat and flame. Do not puncture, incinerate or expose to heat even when empty. 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. No smoking in the area.
- Incompatible materials** : Bases; Strong oxidizing agents.
- 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
2-butoxyethanol	20 ppm	N/Av	50 ppm (Skin)	N/Av
Butane	*1000 ppm	N/Av	800 ppm (final rule)	N/Av
Propane	*1000 ppm	N/Av	1000 ppm	N/Av

*Note The ACGIH TLV's listed above for Butane and Propane are for 'Aliphatic hydrocarbon gases'

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.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.

Eye / face protection : Chemical splash goggles are recommended.

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

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid aerosol.	Appearance	: Foamy spray
Odour	: Mild odour	Odour threshold	: N/Av
pH	: 7.5 - 8.5		
Boiling point	: 100°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	: soluble
Vapour density (Air = 1)	: N/Av	Evaporation rate (n-Butyl acetate = 1)	: < 1
Volatile organic Compounds (VOC's)	: N/Av	Volatiles (% by weight)	: 9.9%
Absolute pressure of container	: N/Av	Viscosity	: N/Av

SECTION 10 - REACTIVITY AND STABILITY DATA

Stability and reactivity	: Stable under the recommended storage and handling conditions prescribed. Hazardous polymerisation does not occur.
Conditions to avoid	: Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas.
Materials To Avoid And Incompatibility	: See Section 7 (Handling and Storage) section for further details.
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicological data	: There is no available data for the product itself, only for the ingredients. See Section 2.
Carcinogenic status	: Contains the following chemicals listed as confirmed animal carcinogens (A3) by ACGIH: 2-butoxyethanol. No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.
Reproductive effects	: None known.
Teratogenicity	: None known.

Mutagenicity : None known.
Sensitization to material : Not expected to be a skin or respiratory sensitizer
Synergistic materials : N/A
Medical conditions aggravated by overexposure : Pre-existing skin, eye, respiratory or blood system disorders
Additional Health Hazards : CNS depression may result from extreme exposures.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental effects : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. No data is available on the product itself
Important environmental characteristics : No data is available on the product itself.
Ecotoxicological : No data is available on the product itself.

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 - TRANSPORTATION INFORMATION

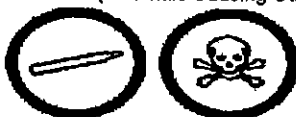
Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.2	none	
TDG Additional Information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION

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

Canadian WHMIS Classification

Class A (Pressurized containers),
 Class D1A (Materials Causing Immediate and Serious Toxic Effects, Very Toxic Material),
 Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
 Class D2B (Materials Causing Other Toxic Effects, Toxic Material)



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.

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
 IARC - International Agency for Research on Cancer
 Inh. - Inhalation
 MSHA - Mine Safety and Health Administration
 N/Ap - not applicable
 N/Av - not available
 NIOSH - National Institute of Occupational Safety and Health
 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
TSCA: Toxic Substance Control Act
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2006.
2. International Agency for Research on Cancer Monographs, searched 2007
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2007 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer

<u>Prepared for:</u> Radiator Specialty Co. of Canada 1711 Aimco Blvd Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 9 AM - 5 PM) Please direct all enquiries to Radiator Specialty.	
<u>Prepared by:</u> ICC The Compliance Center Inc. Canada: 1-888-977-4834 USA: 1-888-442-9628 http://www.thecompliancecenter.com	 HAZARDOUS MATERIALS REGULATIONS SPECIALISTS

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