

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **BATTERY TERMINAL PROTECTOR**

Product Use : Automotive - Coatings.

Chemical Family : Mixture.

Manufacturer part no. : BTP4C

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 B5 (Flammable Aerosols);
Class D1B (Materials Causing Immediate and Serious Toxic Effects, Toxic Material);
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 : Colourless aerosol spray. Ether like odour.
DANGER! Extremely flammable aerosol. Contents under pressure. Containers may explode if heated. POISON! May be fatal if too much is inhaled. May be harmful or fatal if swallowed in large amounts. Can enter the lungs and cause damage. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. Could result in pulmonary edema (fluid accumulation). Causes severe skin irritation. Possible cancer hazard - contains material which may cause cancer.

Contains material that may be harmful in the environment.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May be fatal if too much is inhaled. 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. Liver and kidney injuries may occur. May result in unconsciousness and possibly death. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

Skin : Causes severe skin irritation. Symptoms may include redness and possibly blistering, if product is left on the skin. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, pricking and itching.

Eyes : May cause mild eye irritation. Symptoms may include stinging and tearing. If product is sprayed directly into the eyes, could cause freezing of the eye.

Ingestion : May cause irritation to the mouth, throat and stomach. May produce mild central nervous system depression characterized by headache, nausea, vertigo, and stupor. 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. Some reports have associated repeated, prolonged overexposure to solvents with permanent central nervous system changes. Prolonged overexposure may cause liver and kidney effects.

Carcinogenic status

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

Additional health hazards

- : 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

| <u>Ingredients</u> | <u>CAS #</u> | <u>Wt.%</u> |
|----------------------|--------------|---------------|
| Tetrachloroethylene | 127-18-4 | 50.00 - 70.00 |
| Petroleum distillate | 64742-47-8 | 10.00 - 30.00 |
| Propane | 74-98-6 | 10.00 - 20.00 |
| n-Butane | 106-97-8 | 7.00 - 13.00 |

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. Seek immediate medical attention/advice.
- 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.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention.
- Ingestion** : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.
- Notes For Physician** : Treat symptomatically. This product is a CNS depressant. May be an aspiration hazard.

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

- : Extremely flammable aerosol. Will ignite when exposed to heat, flame and other sources of ignition. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Toxic fumes may be released during a fire. Vapours may be heavier than air and may collect in confined and low-lying areas.

Oxidizing properties

- : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

- : Aerosols are sensitive to mechanical impact. Contents under pressure. May be sensitive to 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. 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

- : Chlorine ; Phosgene ;Hydrogen chloride gas; Carbon oxides; Sulphur oxides; Nitrogen oxides (NOx); phosphorus oxides; 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. Use only non-sparking tools and equipment in the clean-up process. 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. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling. Always replace cap after use.

Storage requirements : Store in a cool, dry, well-ventilated area away from sources of heat, ignition and sunlight. Inspect periodically for damage or leaks. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

Incompatible materials : Strong oxidizing agents ; Reactive metals; Halogenated compounds; Acids; Bases.

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> |
| Tetrachloroethylene | 25 ppm | 100 ppm | 100 ppm | 200 ppm (Ceiling) |
| Petroleum distillate | N/Av | N/Av | N/Av | N/Av |
| Propane | N/Av | N/Av | 1000 ppm | N/Av |
| n-Butane | 1000 ppm (Butane, all isomers) | N/Av | 800 ppm (final rule limit) | 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. A self contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. 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 must be worn when handling this material.

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 eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid aerosol.

Appearance : Off white liquid. Aerosol spray.

Odour : Hydrocarbon odour.

Odour threshold : N/Av

pH : N/Av

Boiling point : > 149°C

Specific gravity : 1.10

Melting/Freezing point : N/Av

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F)

Solubility in water : Insoluble.

: N/Av

- Vapour density (Air = 1) : N/Av
- Evaporation rate (n-Butyl acetate = 1) : > 1
- Volatile organic Compounds (VOC's) : N/Av
- Volatiles (% by weight) : 25%
- Flash point : N/Av
- Flash point Method : Tag closed cup
- Auto-ignition temperature : N/Av
- Upper flammable limit (% by vol.) : N/Av
- Lower flammable limit (% by vol.) : N/Av
- Flashback observed : N/Av
- Flame Projection Length : > 91.4 cm
- Viscosity : N/Av
- Absolute pressure of container : 68 - 72 psig (469 - 496 kPa)
- General Information : No additional information.

Section 10: STABILITY AND REACTIVITY

- Stability and reactivity** : Stable under the recommended storage and handling conditions prescribed. May hydrolyze very slowly in the presence of water to form acids.
- Hazardous polymerization** : Hazardous polymerization does not occur.
- Conditions to avoid** : Avoid heat and open flame.
- Materials To Avoid And Incompatibility** : Strong oxidizing agents; Reactive metals; Halogenated compounds; Acids; Bases.
- Hazardous decomposition products** : hydrochloric acid; Phosgene; Trichloroacetyl chloride; Trichloroacetic acid. Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11 - TOXICOLOGICAL INFORMATION

- Target organs** : Eyes, skin, respiratory system and digestive system. Liver and kidney injuries may occur. Central nervous system.
- Routes of exposure** : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES
- Irritancy** : Mild eye irritant. Severe skin irritation.
- 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> |
| Tetrachloroethylene | 3786 ppm (rat) 2613 ppm (mouse) | 2600 mg/kg | > 3245 mg/kg |
| Petroleum distillate | N/Av | 5000 mg/kg (mouse) | 3000 mg/kg |
| Propane | N/Av | N/Av (gas) | N/Av (gas) |
| n-Butane | 276 000 ppm | N/Av (gas) | N/Av (gas) |

- Carcinogenic status** : This product contains Tetrachloroethylene, which is classified as carcinogenic by IARC (Group 2A) and ACGIH (Category A3). Contains the following chemicals listed as confirmed animal carcinogens (A3) by ACGIH: Petroleum distillates.
- Reproductive effects** : Not expected to have other 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** : Reports have associated repeated and prolonged occupational overexposure to various organic solvents with internal organ, brain and nervous system damage.
- Conditions aggravated by overexposure** : None known or reported by the manufacturer.

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. This product contains the following substance which may also be hazardous for the environment: Tetrachloroethylene.

Ecotoxicity data:

| <u>Ingredients</u> | CAS No | Toxicity to Fish | | |
|----------------------|------------|--------------------------|---------------|----------|
| | | LC50 / 96h | NOEC / 21 day | M Factor |
| Tetrachloroethylene | 127-18-4 | 5 mg/L (Rainbow trout) | N/Av | None. |
| Petroleum distillate | 64742-47-8 | 45 mg/L (Fathead minnow) | N/Av | None. |
| Propane | 74-98-6 | N/Av | N/Av | N/Av |
| n-Butane | 106-97-8 | N/Av | N/Av | N/Av |

| <u>Ingredients</u> | CAS No | Toxicity to Daphnia | | |
|----------------------|------------|--------------------------|---------------------|----------|
| | | EC50 / 48h | NOEC / 21 day | M Factor |
| Tetrachloroethylene | 127-18-4 | 8.5 mg/L (Daphnia magna) | 0.51 mg/L (28 days) | None. |
| Petroleum distillate | 64742-47-8 | N/Av | N/Av | None. |
| Propane | 74-98-6 | N/Av | N/Av | N/Av |
| n-Butane | 106-97-8 | N/Av | N/Av | N/Av |

| <u>Ingredients</u> | CAS No | Toxicity to Algae | | |
|----------------------|------------|------------------------------|-------------------|----------|
| | | EC50 / 96h or 72h | NOEC / 96h or 72h | M Factor |
| Tetrachloroethylene | 127-18-4 | 3.64 mg/L/72hr (Green algae) | N/Av | None. |
| Petroleum distillate | 64742-47-8 | N/Av | N/Av | None. |
| Propane | 74-98-6 | N/Av | N/Av | N/Av |
| n-Butane | 106-97-8 | N/Av | N/Av | N/Av |

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself. Contains: Tetrachloroethylene; Petroleum distillates.
Tetrachloroethylene is not considered to be readily biodegradable.
Petroleum distillates are not considered to be readily biodegradable.

Bioaccumulation potential : No data is available on the product itself. Contains: Tetrachloroethylene; Petroleum distillates.
The Bioconcentration Factor (BCF) of Tetrachloroethylene is 26 - 77.
The log Kow value for petroleum distillates is 3.16 - 7.06.

Other Adverse Environmental effects



: 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: TRANSPORT INFORMATION

| Regulatory Information | UN Number | Shipping Name | Class | Packing Group | Label |
|-----------------------------------|---|---------------|----------|---------------|---|
| TDG | UN1950 | AEROSOLS | 2.1(6.1) | 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:**

DANGER! Extremely flammable aerosol. Contents under pressure. Container may explode if heated. **POISON!** May be fatal if too much is inhaled. May be harmful or fatal if swallowed in large amounts. Can enter the lungs and cause damage. May cause nausea, vomiting, headache and other central nervous system effects. Could result in pulmonary edema (fluid accumulation). Causes severe skin irritation. Possible cancer hazard - contains material which may cause cancer.

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 or incinerate containers. 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 is difficult, give oxygen by qualified medical personnel only. If breathing stopped, begin artificial respiration. For skin contact, immediately remove contaminated clothing then wash thoroughly with soap and water for at least 15 minutes. For eye contact, flush with running water for at least 15 minutes. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. Guard against aspiration into lungs. For all cases, obtain medical attention immediately.

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
- 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
- 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 2013.
- 2. International Agency for Research on Cancer Monographs, searched 2013.
- 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2013 (Chempendium, HSDB and RTECs).
- 4. Material Safety Data Sheets from manufacturer.
- 5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2013.

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| <p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p> |  |

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: 08/14/2007

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: 07/29/2013

Revision No.

: 3

Revision Information

- : (M)SDS sections updated:
 - 2. HAZARDS IDENTIFICATION (Ecological information) ;
 - 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (Exposure Limit Values) ;
 - 12. ECOLOGICAL INFORMATION.

END OF DOCUMENT