

**MATERIAL SAFETY DATA SHEET**

**SECTION 1: IDENTIFICATION**

**Product identifier** : **SOLDER SEAL STOP LEAK**

**Product Use** : Sealant

**Chemical Family** : Mixture.

**Manufacturer part no.** : C501V, C501C

**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 not a WHMIS controlled product in Canada. It does not meet any of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR).

**Emergency Overview** : Silver coloured powder. Bland odour.  
 CAUTION! Potential for dust explosion may exist. May cause mechanical irritation. May cause respiratory irritation. Inhalation of fumes may result in metal fume fever, a flu-like illness. Swallowing may cause irritation, nausea and vomiting.

**POTENTIAL HEALTH EFFECTS:**

**Signs and symptoms of short-term (acute) exposure**

- Inhalation* : Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Fumes from heated product may irritate respiratory tract. Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.
- Skin* : May cause mild transient irritation.
- Eyes* : Inert particles may cause mechanical irritation of the eyes, including scratches.
- Ingestion* : Swallowing may cause irritation, nausea and vomiting.

**Effects of long-term (chronic) exposure**

- : None known or reported by the manufacturer.
- 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**

<b>Ingredients</b>	<b>CAS #</b>	<b>Wt.%</b>
Fatty acids, tallow, sodium salts	8052-48-0	7.00 - 13.00
Aluminum, elemental	7429-90-5	1.00 - 5.00
Aluminum oxide (fibrous forms)	1344-28-1	0.10 - 1.00
N-(3-Chloroallyl)hexaminium chloride	4080-31-3	0.10 - 0.50

**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 if symptoms persist.
- Skin contact** : Remove contaminated clothing. Wash exposed area thoroughly with soap and water for at least 15 minutes. If irritation persists, seek prompt medical attention.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
- Notes For Physician** : Treat symptomatically.

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

- : Not flammable under normal conditions of use. Dust can form an explosive mixture in air. Fine dust dispersed in air may ignite.

**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 sand; Dry sodium chloride.

**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;aluminum oxide; Nitrogen oxides; chloride; 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. Clean up promptly by sweeping or vacuum. Use methods that do not generate dusts. Refer to Section 13 for disposal of contaminated material. Notify the appropriate authorities as required.
- Prohibited materials** : Keep away from incompatibles.

**SECTION 7 - HANDLING AND STORAGE**

- Safe Handling procedures** : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours/dust. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Wash thoroughly after handling. Keep containers closed when not in use.
- Storage requirements** : Store in a cool, dry, well-ventilated area. Keep away from incompatibles. Store away from areas of excessive heat, open flames, sparks, and other possible sources of ignition.
- Incompatible materials** : Strong oxidizing agents; 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**

<b>Ingredients</b>	<b>ACGIH TLV</b>		<b>OSHA PEL</b>	
	<b>TWA</b>	<b>STEL</b>	<b>PEL</b>	<b>STEL</b>
Fatty acids, tallow, sodium salts	N/Av	N/Av	N/Av	N/Av
Aluminum, elemental	1 mg/m <sup>3</sup> (respirable)	N/Av	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable)	N/Av
Aluminum oxide (fibrous forms)	1 mg/m <sup>3</sup> (respirable)	N/Av	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable)	N/Av
N-(3-Chloroallyl)hexaminium chloride	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**

- : Wear NIOSH approved dust masks. 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. Wear sufficient clothing to prevent skin contact.

**Eye / face protection**

- : Chemical splash goggles are recommended. A full face shield may also be necessary.

**Other protective equipment**

- : An eyewash station and safety shower should be made available in the immediate working area.

**General hygiene considerations**

- : Avoid breathing dust. Avoid contact with skin, eyes and clothing. 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 with soap and water after handling.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state</b>	: Powder	<b>Appearance</b>	: Silver coloured powder.
<b>Odour</b>	: Bland odour.	<b>Odour threshold</b>	: N/Av
<b>pH</b>	: 7 - 8		
<b>Boiling point</b>	: N/Av	<b>Specific gravity</b>	: 1.01
<b>Melting/Freezing point</b>	: N/Av	<b>Coefficient of water/oil distribution</b>	: N/Av
<b>Vapour pressure (mmHg @ 20° C / 68° F)</b>	: N/Av	<b>Solubility in water</b>	: dispersible
<b>Vapour density (Air = 1)</b>	: N/Av	<b>Evaporation rate (n-Butyl acetate = 1)</b>	: N/Av
<b>Volatile organic Compounds (VOC's)</b>	: N/Av	<b>Volatiles (% by weight)</b>	: N/Av
<b>Flash point</b>	: N/Av		
<b>Flash point Method</b>	: N/Av	<b>Auto-ignition temperature</b>	: N/Av
<b>Lower flammable limit (% by vol.)</b>	: N/Av	<b>Upper flammable limit (% by vol.)</b>	: N/Av
<b>Flame Projection Length</b>	: N/Av	<b>Flashback observed</b>	: N/Av
<b>Absolute pressure of container</b>	: N/Av	<b>Viscosity</b>	: N/Av
<b>General Information</b>	: No additional information.		

**Section 10: STABILITY AND REACTIVITY**

<b>Stability and reactivity</b>	: Stable under the recommended storage and handling conditions prescribed.
<b>Hazardous polymerization</b>	: Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	: Avoid heat and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.

**Materials To Avoid And Incompatibility**

: Strong oxidizing agents; Acids; Bases

**Hazardous decomposition products**

: None known, refer to hazardous combustion products in Section 5.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

- Target organs** : Eyes, skin, respiratory system and digestive system.
- Routes of exposure** : *Inhalation*: YES *Skin Absorption*: NO *Skin & Eyes*: YES *Ingestion*: YES
- Irritancy** : Product dust may be irritating to eyes, skin and respiratory system.
- 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>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Fatty acids, tallow, sodium salts	N/Av	> 2000 mg/kg (Read-across)	N/Av
Aluminum, elemental	> 2.3 mg/L (dust) (No mortality)	> 2000 mg/kg (No mortality)	N/Av
Aluminum oxide (fibrous forms)	> 2.3 mg/L (dust) (No mortality)	> 2000 mg/kg (No mortality)	N/Av
N-(3-Chloroallyl)hexaminium chloride	N/Av	500 mg/kg (rat); 75 mg/kg (rabbit)	565 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>
Fatty acids, tallow, sodium salts	8052-48-0	54 mg/L (Zebra fish) (Read-across)	N/Av	None.
Aluminum, elemental	7429-90-5	N/Av	N/Av	None.
Aluminum oxide (fibrous forms)	1344-28-1	> 100 mg/L (Brown trout)	N/Av	None.
N-(3-Chloroallyl)hexaminium chloride	4080-31-3	59 mg/L (Bluegill sunfish)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Fatty acids, tallow, sodium salts	8052-48-0	N/Av	N/Av	None.
Aluminum, elemental	7429-90-5	N/Av	N/Av	None.
Aluminum oxide (fibrous forms)	1344-28-1	> 100 mg/L (Daphnia magna)	N/Av	None.
N-(3-Chloroallyl)hexaminium chloride	4080-31-3	42 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
Fatty acids, tallow, sodium salts	8052-48-0	N/Av	N/Av	None.
Aluminum, elemental	7429-90-5	N/Av	N/Av	None.
Aluminum oxide (fibrous forms)	1344-28-1	> 100 mg/L/72hr (Green algae) (Read-across)	N/Av	None.
N-(3-Chloroallyl)hexaminium chloride	4080-31-3	N/Av	N/Av	None.

- Mobility** : No data is available on the product itself.
- Persistence** : No data is available on the product itself.
- 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>
Fatty acids, tallow, sodium salts (CAS 8052-48-0)	- 1.38 to 4.13	3.16 - 56.2 (estimated)

**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.
- 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	
<b>TDG Additional information</b>	None.				

**SECTION 15 - REGULATORY INFORMATION**

**Labelling:**

This product is not a WHMIS controlled product in Canada. As such, this product does not require a WHMIS Supplier label.

**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
  - 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><b><u>Prepared for:</u></b>                  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>	
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**DISCLAIMER OF LIABILITY**

**SOLDER SEAL STOP LEAK**

C501V, C501C

MSDS Revision Date (mm/dd/yyyy): 07/27/2016

Page 7 of 7

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12. ECOLOGICAL INFORMATION.

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