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# 7.2 Material Safety Data Sheet

Si-COAT® 579™

Elastomeric Anti-Corrosion Coating



**1 Product & Company Identification**

Product Name Si-COAT® 579™ RTV Silicone Anti-Corrosion Coating

Chemical Name Not applicable

Chemical Formula Polysiloxane coating

Molecular Weight Polymer

Material Uses Coating for protection against corrosion due to above-grade, atmospheric exposure

Manufacturer CSL Silicones Inc.  
 144 Woodlawn Road West, Guelph, ON, N1H 1B5  
 Canada

Tel. +1 519 836 9044  
 Fax +1 519 836 9069  
 Emergency Tel. +1 519 836 9044

**2 Hazards Identification**

**HAZARDOUS INGREDIENTS OF MATERIAL**

<i>Material</i>	<i>Pct. (%)</i>	<i>CAS No.</i>	<i>ACGIH TLV</i>	<i>LD50</i>
Petroleum Naphtha	15 – 40	064742-88-7	100 ppm	>2,000 mg/kg (oral, rat) >2,000 mg/kg (dermal, rat) >11 mg/L (inhale, rat, 4 hrs)
Amorphous Silica	1 – 5	067762-90-7	10 mg/m <sup>3</sup>	>1,000 mg/kg (oral, rat) >2,000 mg/kg (dermal, rabbit)
Oximino Silane	1 – 5	022984-54-9	Not est.	2 – 3 mL/kg (oral, rat)
Amino Alkyl Silane	1 – 5	000919-30-2	Not est.	1,780 mg/kg (oral, rat) 4,000 mg/kg (dermal, rabbit)
Crystalline Silica	20 – 40	014808-60-7	0.025 mg/m <sup>3</sup>	Not Established
Octamethylcyclotetrasiloxane	0.1 – 2	000556-67-2	10 ppm	2,000 mg/kg (oral, rat) 36 mg/L (inhale, rat, 4 hrs)

**EFFECTS OF CHRONIC EXPOSURE**

Health Effects Pulmonary Edema, Dermatitis

Toxicological Data LD50 of mixture : 4,400 to 16,700 mg/kg (calculated; oral, rat)

Carcinogenicity Data Respirable Crystalline Silica has been classified as a probable carcinogen by the International Agency for Research on Cancer (IARC) and the National Institute for Occupational Health and Safety (NIOSH). Neither the base compound nor the cured coating releases any respirable quartz.

Reproductive Data Octamethylcyclotetrasiloxane (in concentration of 500 to 700 ppm) has shown reproductive effects in laboratory animals. No available information of adverse reproductive effects of other ingredients of this product.

Mutagenicity Data No information is available and no adverse mutagenic effects are anticipated

Teratogenicity Data No information is available and no adverse teratogenic effects are anticipated

Synergistic Products None known

(cont'd from §2)

**Delayed Effects** Curing byproduct methylethylketoxime (MEKO);  
 In a chronic oral toxicity animal study, MEKO produced an adverse effect upon red blood cells. This was found for all dose levels tested. Gross histopathologic alterations were observed in the spleen, lung and kidney. In an acute dermal animal study, 200 mg/kg caused mild hematological (blood) effects. No effects were seen at 20 mg/kg. Male rats and mice exposed to MEKO throughout their lifetime developed liver tumors. Many commonly used chemicals cause liver tumors in rats and mice. The relevance to humans is uncertain.

**EFFECTS OF ACUTE EXPOSURE**

**Inhalation** Moderate irritant to respiratory passages. Prolonged exposure to high vapor concentrations can cause headache, nausea, central nervous system depression, anesthesia and dizziness.

**Eye Contact** *Liquid* acts as severe irritant upon contact; may cause corneal burns and conjunctivitis.  
*Vapor* acts as an irritant; may cause corneal damage and photophobia (light sensitivity).

**Dermal (skin) Contact** Direct contact with vapor or liquid may cause defatting, drying and cracking of the skin. Prolonged and repeated contact may cause dermatitis.

**Ingestion (swallowing)** Ingestion can cause headache, nausea, dizziness, anesthesia, depression of the central nervous system and a burning sensation. Low oral toxicity.

**3 Composition/ Information on Ingredients**

<i>Ingredient</i>	<i>Wt. Pct. (%)</i>	<i>CAS No.</i>
Polydimethylsiloxane	Proprietary	070131-67-8
Amorphous Silica	1 – 5	067762-90-7
Oximino Silane	1 – 5	022984-54-9
Amino Alkyl Silane	1 – 5	000919-30-2
Octamethylcyclotetrasiloxane	0.1 – 2	000556-67-2
Crystalline Silica	20 – 40	014808-60-7
Petroleum Naphtha	15 – 40	064742-88-7

**4 First Aid Procedures**

**Inhalation** Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Obtain immediate medical attention.

**Eye Contact** Do not attempt to physically remove solids or gums from eye. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, by the clock, holding the eyelid(s) open. Obtain immediate medical attention.

**Dermal (skin) Contact** Remove contaminated clothing. Wash gently and thoroughly with water and non-abrasive soap. If symptoms persist, obtain medical attention. Contaminated clothing should be laundered before re-use.

**Ingestion** Never give anything by mouth if victim is rapidly losing consciousness, is unconscious or is convulsing. **DO NOT INDUCE VOMITING.** Have victim drink 240 to 300ml (8 to 10 fl. oz.) of water or milk to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Repeat the administration of water/milk. Obtain immediate medical attention.

(cont'd from §4)

**First Aid** Provide general supportive measures (comfort, warmth, rest). Consult a physician and/or the nearest Poison Control Center for all exposures except minor instances of inhalation or skin contact. Solid or plastic material in the eye should be removed only by a physician.

## 5 Fire Fighting Measures

### FIRE & EXPLOSION DATA

Flash Point	42°C (107.6°F) PMCC, ASTM D-93
Lower Explosive Limit	Not established
Upper Explosive Limit	Not established
Auto-ignition Temperature	No data
Fire Extinguishing Agents	Dry chemical, CO <sub>2</sub> , water spray, chemical foam
Unusual Fire/Explosion Hazard	None
Hazardous Combustion Products	Carbon dioxide, carbon monoxide, formaldehyde, silicon dioxide, nitrogen oxides

### FIRE FIGHTING PROCEDURES

Wear a Self-Contained Breathing Apparatus (SCBA) that provides eye protection and is NIOSH approved. Shut off fuel supply to fire if possible. Do not use direct water stream as this may spread the fire.

## 6 Accidental Release Measures

Spill & Leak Procedure	Eliminate sources of ignition. Restrict access to area of spill. Provide ventilation and protective clothing if needed. Cover with dry lime or soda ash. Scrape up liquid coating with cardboard or rag and place in a closed container.
Waste Disposal	Review environmental regulations for disposal. Silicone wastes can often be incinerated in approved facilities. Solid waste may be sent to a designated landfill site.

## 7 Handling & Storage

Storage Conditions	Store under cool, dry conditions. Keep container tightly sealed when not in use.
Handling Procedure	No specific measures required. Do not inhale vapor or ingest liquid coating. Wash thoroughly after handling. Cured Si-COAT 579 requires no special precautions.

## 8 Exposure Control & Personal Protection

Petroleum naphtha used as a diluent is released in the air during the drying and curing process. Methylenehexoxime (MEKO) is released as a curing byproduct when in contact with humid air.

(cont'd from §8)

<i>Component</i>	<i>OSHA PEL</i>	<i>ACGIH TLV</i>	<i>Other Limits</i>
Petroleum Naphtha	None	100 ppm	100 ppm (recommended exposure level)
MEKO	None	None	10 ppm (STEL) 10 ppm (TWA)

**PERSONAL PROTECTIVE EQUIPMENT**

Respiratory Protection	NIOSH/MSHA approved air-purifying respirator, equipped with organic vapor/dust cartridge
Eye/Face Protection	Chemical splash goggles
Dermal (skin) Protection	Gloves, coveralls and/or aprons may be useful to prevent contamination of skin or clothing
Resistance of Materials for Protective Clothing	No specific data. Most rubbers and plastics are adequate
Ventilation Requirements	Local exhaust to provide sufficient removal of vapors

**9 Physical & Chemical Properties**

Physical State	Smooth, slightly viscous liquid
Odor	Hydrocarbon odor
Odor Threshold	Not applicable
pH	Not determined
Boiling Point	Not available
Freezing Point	Not available
Vapor Pressure (mm Hg)	Negligible at 25°C (77°F)
Vapor Density (air = 1)	Not applicable
VOC Concentration	304.20 g/L (2.54 lb/US gallon)
Specific Gravity (water = 1)	1.2
Solubility in Water	Insoluble
Solubility in Other Solvents	Soluble in most organic solvents
Evaporation Rate (butyl acetate = 1)	Not applicable
Decomposition Temperature	No data

**10 Stability & Reactivity**

Product Stability	Stable
Hazardous Polymerization	Will not occur
Incompatible Materials	STRONG OXIDIZERS. CONCENTRATED ACIDS OR BASES cause degradation of polymer. Boiling water may soften and weaken material.
Hazardous Decomposition Products	Combustion will produce carbon dioxide, carbon monoxide, silicon dioxide and nitrogen oxides. A component of this product can generate formaldehyde at approximately 150°C (300°F) and above in the atmosphere containing oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant and potential carcinogen.

**11 Toxicological Information**

Toxicological Data	LD50 of mixture (calculated) Ingestion in rat 4,400 to 16,700 mg/kg.
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Octamethylcyclotetrasiloxane (in concentrations of 500 to 700 ppm) has shown evidence of reproductive effects in laboratory animals.

**12 Ecological Information**

The uncured coating will release methylethylketoxime (MEKO) when in contact with water. MEKO has been determined biodegradable and has a static 96 hours LC<sub>50</sub> of 48 mg/L (bluegill) and 48 hours EC<sub>50</sub> of 750 mg/L (daphnia).

The coating diluent petroleum naphtha is biodegradable and does not accumulate in the food chain. Petroleum naphtha has a very low acute toxicity.

**13 Disposal Consideration**

Do not dispose of waste uncured coating with normal garbage or to sewer.

Review environmental regulations for disposal. Silicone wastes can often be incinerated in approved facilities. Solid waste may be sent to a designated landfill site.

**14 Transport Information**

TDG Information	Class III Flammable Liquid
UN	UN 1139

**15 Regulatory Information**

WHMIS Classification	Class B: flammable and combustible material Division 3: combustible liquid  Class D: poisonous and infectious material Division 2: other toxic effects Subdivision B: toxic
RoHS Statement	Si-COAT 579 RTV Silicone Anti-Corrosion Coating does not contain Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium, Polybrominated Biphenyls (PBBs) or Polybrominated Diphenyl Ethers (PBDEs) as listed per the RoHS Directive.
TSCA Status	All ingredients of this product are listed on the TSCA Inventory of Chemicals.
State of California Safe Drinking Water and Toxic Enforcement Act, 1986 (Proposition 65)	None of the ingredients of this product are listed in Proposition 65 as of December, 2006.
Canadian DSL Status	All ingredients of this product are listed on the Canadian DSL.

**16 Additional Information & Sources Used**

Date Issued 01-AUG-07  
Date Revised 01-AUG-07  
Prepared By Farooq AHMED, R&D Manager  
Emergency Contact Baz MISTRY, Laboratory Manager  
or Farooq AHMED, R&D Manager

- REFERENCES
1. American Conference of Governmental Industrial Hygienists Inc., Documentation of the Threshold Limit Values (TLV) and Biological Exposures Indices, 5th Edition, 1986, Cincinnati, OH.
  2. National Institute for Occupational Safety and Health, Registry of Toxic Effects of Chemical Substances.
  3. Sigma-Aldrich Corp., USA, The Sigma-Aldrich Library of Chemical Safety Data, 1985.
  4. Sittig, M., Handbook of Toxic and Hazardous Chemicals and Carcinogens, 2nd Edition, 1985, Park Ridge, NJ.
  5. Canadian Center for Occupational Health and Safety, CHEMINFO, Record #15E, #26E.
  6. Material Safety Data Sheets from Cabot Corporation, Wacker-Chemie GMBH, General Filtration, Dow Corning, Union Carbide, Hoechst Canada, Honeywell Chemicals.
  7. Canada's National Occupational Health & Safety Resources at [www.ccohs.ca/oshanswers/legisl/whmis](http://www.ccohs.ca/oshanswers/legisl/whmis)
  8. Information from Health Canada at [www.hc-sc.gc.ca/ahc-asc/intactiv/ghs-sgh/index\\_e.html](http://www.hc-sc.gc.ca/ahc-asc/intactiv/ghs-sgh/index_e.html)
  9. Information from United Nations at [www.unece.org/trans/danger/publi/ghs/ghs\\_rev01/01files\\_e.html](http://www.unece.org/trans/danger/publi/ghs/ghs_rev01/01files_e.html)
  10. Information about the RoHS (Restriction of Use of Certain Hazardous Substances in Electrical and Electronic Equipments) Directive was obtained at [www.rohs.gov.uk](http://www.rohs.gov.uk)
  11. Information about the State of California Safe Drinking Water and Toxic Enforcement Act, 1986 (Proposition 65) was obtained at [www.oehha.ca.gov/prop65.html](http://www.oehha.ca.gov/prop65.html)

**Disclaimer**

*The information given in this sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this document without first obtaining written confirmation from CSL Silicones Inc. as to the suitability of the product for the intended purpose does so at his/her own risk. The information contained herein has been prepared in good faith to comply with applicable federal and provincial (state) law(s). However, no warranty of any kind is given or implied and CSL Silicones Inc. will not be responsible for any damages, losses or injuries that may result from the use of any information contained herein. While CSL endeavors to ensure all advice it gives about the product (whether in this document or otherwise) is correct, we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless CSL specifically agrees in writing to do so, it does not accept any liability whatsoever or howsoever arising for the performance of the product, or for any consequential loss or damage arising out of the use of the product. Any warranty, if given, or specific Terms & Conditions of Sale are contained in CSL's Terms & Conditions of Sale, a copy of which can be obtained upon request. The information contained herein is liable to modification from time-to-time in light of experience and CSL's policy of continuous product improvement.*

*It is the user's responsibility to check that this document is current prior to using the product.*

**CSL Silicones Inc.**

Worldwide  
CSL Silicones Inc.  
144 Woodlawn Road West  
Guelph, ON N1H 1B5  
CANADA

Tel: +1 519 836 9044  
Fax: +1 519 836 9069

[www.si-coat.com](http://www.si-coat.com)



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