

## DOW CORNING(R) TC-5600 THERMALLY CONDUCTIVE COMPOUND

## 1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation  
South Saginaw Road  
Midland, Michigan 48686

**24 Hour Emergency Telephone: (989) 496-5900**

Customer Service: (989) 496-6000

Product Disposal Information: (989) 496-6315

CHEMTREC: (800) 424-9300

MSDS No.: 04078268

Revision Date: 2009/02/11

Generic Description: Silicone compound

Physical Form: Viscous Liquid

Color: Grey.

Odor: Odorless

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

## 2. HAZARDS IDENTIFICATION

**POTENTIAL HEALTH EFFECTS**Acute Effects

Eye: No significant irritation expected from a single exposure.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation: No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions,

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component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
681-84-5	<0.1	Tetramethoxysilane

The above components are hazardous as defined in 29 CFR 1910.1200.

**4. FIRST AID MEASURES**

Eye:	Immediately flush with water.
Skin:	No first aid should be needed.
Inhalation:	No first aid should be needed.
Oral:	No first aid should be needed.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

**5. FIRE FIGHTING MEASURES**

Flash Point:	509 °F / 265 °C (Seta Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO <sub>2</sub> ), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

**6. ACCIDENTAL RELEASE MEASURES**

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**Containment/Clean up:** Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

**7. HANDLING AND STORAGE**

Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. Product contains a highly toxic component. Provide engineering controls to ensure exposure levels are controlled.

Use reasonable care and store away from oxidizing materials.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Component Exposure Limits**

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
681-84-5	Tetramethoxysilane	ACGIH TLV: TWA 1 ppm.

**Engineering Controls**

Local Ventilation: Recommended.  
General Ventilation: Recommended.

**Personal Protective Equipment for Routine Handling**

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

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Suitable Gloves: Handle in accordance with good industrial hygiene and safety practices.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

**Personal Protective Equipment for Spills**

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Use reasonable care.

Comments: Traces of benzene (carcinogen) may form if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. Product contains a highly toxic component. Provide engineering controls to ensure exposure levels are controlled.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry ([www.SEHSC.com](http://www.SEHSC.com)) or contact the Dow Corning customer service group.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical Form: Viscous Liquid

Color: Grey.

Odor: Odorless

Specific Gravity @ 25°C: 2.74

Viscosity: 85,000 mPa s

Freezing/Melting Point: Not determined.

Boiling Point: > 200 °C

Vapor Pressure @ 25°C: Not determined.

Vapor Density: Not determined.

Solubility in Water: Not determined.

pH: Not determined.

Volatile Content:

Flash Point: 509 °F / 265 °C (Seta Closed Cup)

Autoignition Temperature: Not determined.

Flammability Limits in Air: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing

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specifications.

**10. STABILITY AND REACTIVITY**

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde. Hydrogen. Metal oxides. Zinc oxide fumes.

**11. TOXICOLOGICAL INFORMATION**Component Toxicology Information

Product contains tetramethoxysilane which is highly toxic by inhalation. The 4 hour LC50 in rats is 63 ppm. Severe eye injury ranging from eye pain to blindness and eye loss has resulted from occupational exposure to tetramethoxysilane. Exposure to air concentrations of 200 to 300 ppm for 15 minutes can induce minimal eye lesions and exposure at 1000 ppm can produce corneal damage.

Special Hazard Information on Components

No known applicable information.

**12. ECOLOGICAL INFORMATION**Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

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## Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

**13. DISPOSAL CONSIDERATIONS****RCRA Hazard Class (40 CFR 261)**

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

**14. TRANSPORT INFORMATION****DOT Road Shipment Information (49 CFR 172.101)**

Not subject to DOT.

**Ocean Shipment (IMDG)**

Not subject to IMDG code.

**Air Shipment (IATA)**

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

**15. REGULATORY INFORMATION**

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

**EPA SARA Title III Chemical Listings****Section 302 Extremely Hazardous Substances (40 CFR 355):**

None.

**Section 304 CERCLA Hazardous Substances (40 CFR 302):**

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None.

**Section 311/312 Hazard Class (40 CFR 370):**

Acute: No  
 Chronic: No  
 Fire: No  
 Pressure: No  
 Reactive: No

**Section 313 Toxic Chemicals (40 CFR 372):**

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

**Supplemental State Compliance Information****California**

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

**Massachusetts**

No ingredient regulated by MA Right-to-Know Law present.

**New Jersey**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
NJ TSRN 14962700-700 4P	> 60.0	Treated filler
NJ TSRN 14962700-700 3P	15.0 - 40.0	Zinc oxide
471277-16-4	3.0 - 7.0	Dimethyl siloxane, dimethylvinylsiloxy and trimethoxysiloxy-terminated
63148-52-7	1.0 - 5.0	Dimethyl, phenylmethyl siloxane, trimethyl-terminated

**Pennsylvania**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
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Trade Secret	> 60.0	Treated filler
Trade Secret	15.0 - 40.0	Zinc oxide
471277-16-4	3.0 - 7.0	Dimethyl siloxane, dimethylvinylsiloxy and trimethoxysiloxy-terminated

**16. OTHER INFORMATION**

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

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