

DOW CORNING CORPORATION

Material Safety Data Sheet

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Version: 4.1

Revision Date: 2013/12/20

DOW CORNING(R) 94-003 DISPERSION COATING

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.: 01001299

Revision Date: 2013/12/20

Generic Description: Fluorosilicone

Physical Form: Liquid

Color: Yellow

Odor: Not available

NFPA Profile: Health 2 Flammability 3 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause severe irritation. Vapor may cause eye irritation.

Skin: May cause mild irritation.

Inhalation: Vapor may irritate nose and throat. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.

Oral: Swallowing large amounts may cause drowsiness.

Prolonged/Repeated Exposure Effects

Skin: Repeated skin contact may cause allergic skin reaction. Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis. Overexposure by skin absorption may injure the following organ(s): Blood.

Inhalation: Overexposure by inhalation may injure the following organ(s): Blood.

Oral: Overexposure by ingestion may injure the following organ(s): Blood.

Other Health Effects

This product contains a chemical(s) that has the following effect(s):
Reproductive Toxicity

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See Section 11 for specific details.

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, 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>
78-93-3	30.0 - 50.0	Butanone
2224-33-1	5.0 - 10.0	Vinyltri (methylethylketoxime) silane
96-29-7	<=3.0	Ethyl methyl ketoxime
2374-14-3	<0.1	Trifluoropropylmethyl cyclotrisiloxane

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

4. FIRST AID MEASURES

Eye:	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 - 20 minutes while holding the eyelid(s) open. If contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately obtain medical attention.
Skin:	As quickly as possible remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately flush with lukewarm gently flowing water for 15 minutes. Completely decontaminate clothing, shoes and leather goods before reuse or discard. Obtain medical attention.
Inhalation:	Remove from the source of contamination or move to fresh air. Obtain medical attention.
Oral:	Never give anything by mouth if victim is rapidly losing consciousness or convulsing. DO NOT INDUCE VOMITING. Have victim drink 2 to 8 oz. (60 to 240 mL) of water. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Have victim rinse mouth with water again. Obtain medical attention.

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Notes to Physician: Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point: 30.2 °F / -1 °C (Pensky-Martens 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 (CO₂), 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: Vapors are heavier than air and may travel to a source of ignition and flash back. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Remove possible ignition sources. 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. This material may form highly toxic vapors of trifluoropropionaldehyde if heated in air above 300° F (149° C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established). Product evolves methyl ethyl ketoxime (MEKO) when exposed to water or humid air. Provide ventilation during use to

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control methyl ethyl ketoxime (MEKO) within exposure guidelines or use respiratory protection. Avoid eye exposure. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks, and flame. Keep container closed and store away from water or moisture.

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

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
78-93-3	Butanone	OSHA PEL (final rule): TWA 200 ppm and ACGIH TLV: TWA 200 ppm, STEL 300 ppm.
2224-33-1	Vinyltri (methylethylketoxime) silane	See ethyl methyl ketoxime comments.
96-29-7	Ethyl methyl ketoxime	Vendor guide: TWA 3 ppm, STEL 10 ppm. AIHA WEEL: TWA 10 ppm.
2374-14-3	Trifluoropropylmethyl cyclotrisiloxane	Dow Corning guide: 8-Hour TWA 5 parts per billion (ppb), skin.

Ethyl methyl ketoxime is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within the following exposure guidelines: Vendor guide TWA: 3 ppm, STEL: 10 ppm; AIHA WEEL TWA: 10 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use chemical worker's goggles.

Skin: Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.

Suitable Gloves: Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.

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Inhalation: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.

Suitable Respirator: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes: Use full face respirator.

Skin: Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.

Inhalation/Suitable Respirator: Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Precautionary Measures: Avoid eye exposure. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.

Comments: This material may form highly toxic vapors of trifluoropropionaldehyde if heated in air above 300° F (149° C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established). Product evolves methyl ethyl ketoxime (MEKO) when exposed to water or humid air. Provide ventilation during use to control methyl ethyl ketoxime (MEKO) within exposure guidelines or use respiratory protection.

When heated to temperatures above 180 degrees C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer, and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

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) or contact the Dow Corning customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid
Color: Yellow

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Odor: Not available
Specific Gravity @ 25°C: 1.04
Viscosity: 5,000 cP

Freezing/Melting Point: Not determined.
Boiling Point: 105 °C
Vapor Pressure @ 25°C: no data available
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.
Flash Point: 30.2 °F / -1 °C (Pensky-Martens 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 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. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

Hazardous Decomposition Products

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

11. TOXICOLOGICAL INFORMATIONComponent Toxicology Information

This material may form highly toxic vapors of Trifluoropropionaldehyde if heated in air above 300 (degrees) F (149 degrees C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established).

During use of the material, small amounts of methylethylketoxime (MEKO) will be released. Long-term or repeated exposure to high concentrations of oxime-silanes may cause narcotic type effects on the nervous system, harmful effects

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on the blood (anemia) and irritate nasal passages, but these effects are reversible and not considered serious. Rodents exposed to chronic MEKO inhalation throughout their lifetimes showed significant increases in liver tumor rates.

Trifluoropropylmethylcyclotrisiloxane decreased fertility and produced histological changes in the testes of male rabbits dermally exposed for 21 days at dosages greater than or equal to 500 mg/kg/day.

Trifluoropropylmethylcyclotrisiloxane decreased body weight gains, depressed serum alkaline phosphatase activity, and increased serum glutamic pyruvate transaminase and serum glutamic oxalate transaminase activities in male and female rabbits treated dermally for 21 days at dosages greater than or equal to 200 mg/kg/day. Relative liver weights were decreased in males at 200 mg/kg/day and in females at greater than or equal to 40 mg/kg/day. Mortality was produced at 400 mg/kg/day.

The acute oral toxicity of trifluoropropylmethylcyclotrisiloxane in rats was evaluated in several tests. Dilution in corn oil appeared to increase the acute lethality of trifluoropropylmethylcyclotrisiloxane. In one test, the approximate oral LD50's were 10 g/kg (undiluted), 4g/kg (50 percent in corn oil) and 0.3 g/kg (5 percent in corn oil). These findings are generally consistent with those of other available tests.

Trifluoropropylmethylcyclotrisiloxane reduced the function and/or weight of the seminal vesicles, prostate, and testes in male rodents following oral gavage at dosages of 10-33 mg/kg/day for 3-7 days.

Special Hazard Information on Components**Reproductive Toxicity**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>	
2374-14-3	<0.1	Trifluoropropylmethyl cyclotrisiloxane	Evidence of reproductive effects in laboratory animals.

Sensitizers

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>	
2224-33-1	5.0 - 10.0	Vinyltri (methylethylketoxime) silane	Possible skin sensitizer.
96-29-7	<=3.0	Ethyl methyl ketoxime	Possible skin sensitizer.

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

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

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Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

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? Yes

Characteristic Waste:

Ignitable: D001

TCLP: D035

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)**

Proper Shipping Name: Methyl ethyl ketone Solution

Hazard Class: 3

UN/NA Number: UN 1193

Packing Group: II

Hazard Label(s): Flammable Liquid

Ocean Shipment (IMDG)

Proper Shipping Name: METHYL ETHYL KETONE Solution

Hazard Class: 3

UN/NA Number: UN 1193

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Packing Group: II
Hazard Label(s): Flammable liquids

Air Shipment (IATA)

Proper Shipping Name: Methyl ethyl ketone Solution

Hazard Class: 3
UN/NA Number: UN 1193

Packing Group: II
Hazard Label(s): Flammable Liquids

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):

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
78-93-3	36.0	Butanone

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

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

Section 313 Toxic Chemicals (40 CFR 372):

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
78-93-3	36.0	Butanone

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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.

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68607-77-2	40.0 - 60.0	Trifluoropropylmethyl siloxane, hydroxy-terminated
78-93-3	30.0 - 50.0	Butanone
68909-20-6	7.0 - 13.0	Trimethylated silica
2224-33-1	5.0 - 10.0	Vinyltri (methylethylketoxime) silane
96-29-7	<=3.0	Ethyl methyl ketoxime

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68607-77-2	40.0 - 60.0	Trifluoropropylmethyl siloxane, hydroxy-terminated
78-93-3	30.0 - 50.0	Butanone
68909-20-6	7.0 - 13.0	Trimethylated silica
2224-33-1	5.0 - 10.0	Vinyltri (methylethylketoxime) silane
96-29-7	<=3.0	Ethyl methyl ketoxime

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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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