

## Safety Data Sheet

# DIMETHYL SILICONE FLUID 50CS/100CS/350CS/1000CS

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### 1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY/ UNDERTAKING

<b>PRODUCT NAME</b>	Dimethyl Silicone Fluid
<b>SYNONYMS, TRADE NAMES</b>	PDMS 201
<b>APPLICATION</b>	Personal care products, Industrial applications

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### 2. HAZARDS IDENTIFICATION

#### POTENTIAL HEALTH EFFECTS

##### Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

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.

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### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

CAS No. 63148-62-9

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### 4. FIRST-AID MEASURES

Eye: If irritation occurs, flush eye(s) with lukewarm gently flowing water for 5 minutes. Obtain medical attention.

Skin: No health effects expected. If irritation does occur flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.

Inhalation: If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.

Oral: If irritation or discomfort occur, obtain medical advice.

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

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## **5. FIRE- FIGHTING MEASURES**

Autoignition Temperature: > 752 °F / > 400 °C

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.

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## **6. ACCIDENTAL RELEASE MEASURES**

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. Relevant 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 laws and regulations are applicable.

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## **7. HANDLING AND STORAGE**

Use with adequate ventilation. Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

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## **8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**

### **Component Exposure Limits**

There are no components with workplace exposure limits.

### **Engineering Controls**

Local Ventilation: None should be needed.

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.

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: Avoid eye contact. Use reasonable care.

Comments: When heated to temperatures above 150 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 or contact us.*

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit	
Appearance		Crystal Clear
Solubility Parameter 3		7.2
Flash Point, Closed Cup	°C	211
Acid Number, BPC		trace
Melt Point	°C	-60
Pour Point	°C	-100
Surface Tention at 25°C ( 77°F )	Dynes/ cm	20.1
Viscosity Temp. Coefficient		0.56
Coefficient of Expansion	Cc/ ccl °C	0.00108
Thermal Conductivity at 50°C( 122 )	g cal/cm. sec °C	0.00032

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## 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.

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## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicology Data for Product

	Species	Test Results
Oral LD50:	Rat	> 15,400 mg/kg
Dermal LD50:	Rabbit	> 2,000 mg/kg

### Special Hazard Information on Components

No known applicable information.

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## 12. ECOLOGICAL INFORMATION

### Environmental Fate and Distribution

**Air:** This product is a high molecular weight liquid polymer which has a very low vapour pressure (<1 mm Hg). As a result it is unlikely to become an atmospheric contaminant unless generated as an aerosol.

**Water:** This product has a very low water solubility (< 100 ppb). As it has a specific gravity of < 1, if discharged to water, it will initially form a surface film. As the product is non-volatile and has a high binding affinity for particulate matter, it will adsorb to particulates and sediment out.

**Soil:** If discharged to surface water, this product will bind to sediment. If discharged in effluent to a waste water treatment plant, the product is removed from the aqueous phase by binding to sewage sludge. If the sewage sludge is subsequently spread on soil, the silicone product is expected to degrade.

**Degradation:** This product, polydimethylsiloxane, degrades in soil abiotically to form smaller molecules. These in turn are either biodegraded in soil or volatilized into the air where they are broken down in the presence of sunlight. Under appropriate conditions, the ultimate degradation products are inorganic silica, carbon dioxide and water vapour. Due to the very low water solubility of this product, standard OECD protocols for ready and inherent biodegradability are not suitable for measuring the biodegradability of this product. The product is removed >80% during the sewage treatment process.

### Environmental Effects

**Toxicity to Water Organisms:** Based on analogy to similar materials this product is expected to exhibit low toxicity to aquatic organisms.

**Toxicity to Soil Organisms:** Experiments show that when sewage sludge containing polydimethylsiloxane is added to soil, it has no effect on soil micro-organisms, earthworms or subsequent crops grown in the soil.

**Bioaccumulation:** This product is a liquid and is a high molecular weight polymer. Due to its physical size it is unable to pass through, or be absorbed by biological membranes. This has been confirmed by testing or analogy with similar products.

### Fate and Effects in Waste Water Treatment Plants

This product or similar products has been shown to be non-toxic to sewage sludge bacteria.

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## 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

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#### **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.

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#### **15. REGULATORY INFORMATION**

Acute: No

Chronic: No

Fire: No

Pressure: No

Reactive: No

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#### **16. OTHER INFORMATION**

REVISION DATE            **20-6-2019**

REV. NO./REPL. SDS

GENERATED

SAFETY DATA SHEET STATUS

Approved.

DATE                            **20-6-2019**