



BROOKFIELD ENGINEERING LABORATORIES, INC.
11 COMMERCE BOULEVARD
MIDDLEBORO, MASSACHUSETTS 02346, USA

Material Safety Data Sheet

Fluid: 50 cP

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Brookfield Engineering Laboratories
11 Commerce Boulevard
Middleboro, MA 02346

Emergency Telephone (Chem-Tel Inc.):

Domestic (US/PR/Canada/US Virgin Is); 800 255 3924
International (outside N. America); +(1) 813 248 0585
Revision Date: September 20, 2010

Generic Description: Silicone

Physical Form: Liquid

Color: Colorless

Odor: Characteristic Odor

NFPA* Profile:

Health 0

Flammability 1

Instability/Reactivity 0

* NFPA = National Fire Protection Association

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.

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

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

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.

Comments: Treat symptomatically.



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5. FIRE FIGHTING MEASURES

Flash Point Range: >248 °F / >120 °C (Closed Cup)
>482 °F / >250 °C (Cleveland Open Cup)

Auto-ignition 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: None.

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 some silicone 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.

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: No special protection needed.
- 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 ([www. SEHSC.com](http://www.SEHSC.com))



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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid

Color: Colorless

Odor: Characteristic Odor

Specific Gravity Range @ 25°C: .96

Viscosity: 50 cP

Freezing/Melting Point: Not determined.

Boiling Point: > 65°C

Vapor Pressure @ 25°C: Not determined.

Vapor Density: Not determined.

Solubility in Water: Not determined.

pH: Not determined.

Volatile Content: Not determined.

Flash Point Range: >248 °F / >120 °C (Closed Cup)
>482 °F / >250 °C (Cleveland Open Cup)

Note: The above information is not intended for use in preparing product 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 hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Acute Toxicology Data for Product

	<u>Species</u>	<u>Test Results</u>
<u>Oral LD50:</u>	Rat	> 50 ML/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 vapor 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 vapor. 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.

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.



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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.

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): 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**

CAS Number	Wt %	Component Name
63148-62-9	> 60.0	Polydimethylsiloxane

- **Pennsylvania**

CAS Number	Wt %	Component Name
63148-62-9	> 60.0	Polydimethylsiloxane

16. OTHER INFORMATION

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.