

DOW CORNING CORPORATION
Material Safety Data Sheet

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Version: 1.2

Revision Date: 2005/05/09

SYLGARD(R) 184 SILICONE ELASTOMER BASE (BASE information is below)**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.: 02680068

Revision Date: 2005/05/09

Generic Description: Silicone
Physical Form: Liquid
Color: Colorless
Odor: Some odor

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

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

3. HAZARDS IDENTIFICATIONPotential Health EffectsAcute EffectsEye: 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 EffectsSkin: 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

SYLGARD(R) 184 SILICONE ELASTOMER BASE (BASE information is below)

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.

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.

5. FIRE FIGHTING MEASURES

Flash Point:	250 °F / 121.1 °C (Pensky-Martens Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	Water spray. Carbon dioxide (CO ₂). Dry chemical. Foam. 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.
Unusual Fire Hazards:	None.

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.

6. ACCIDENTAL RELEASE MEASURES

SYLGARD(R) 184 SILICONE ELASTOMER BASE (BASE information is below)

Containment/Clean up: Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements. 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. Observe all personal protection equipment recommendations described in Sections 5 and 8. 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.

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. Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

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.

SYLGARD(R) 184 SILICONE ELASTOMER BASE (BASE information is below)

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

Precautionary Measures: Avoid eye contact. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid
Color: Colorless
Odor: Some odor
Specific Gravity @ 25°C: 1.11
Viscosity: 5000 cSt

Freezing/Melting Point: Not determined.
Boiling Point: > 100 °C
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: 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 Hazardous polymerization will not occur.
Polymerization:
Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

11. TOXICOLOGICAL INFORMATION**Special Hazard Information on Components**

No known applicable information.

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

Complete information is not yet available.

SYLGARD(R) 184 SILICONE ELASTOMER BASE (BASE information is below)**Environmental Effects**

Complete information is not yet available.

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?

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.

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

SYLGARD(R) 184 SILICONE ELASTOMER BASE (BASE information is below)**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>
1330-20-7	0.7	Xylene

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.

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>
68083-19-2	> 60.0	Dimethyl siloxane, dimethylvinyl-terminated
68988-89-6	30.0 - 60.0	Dimethylvinylated and trimethylated silica
3555-47-3	1.0 - 5.0	Tetra(trimethylsiloxy) silane

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68083-19-2	> 60.0	Dimethyl siloxane, dimethylvinyl-terminated

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SYLGARD(R) 184 SILICONE ELASTOMER BASE (BASE information is below)

68988-89-6 30.0 - 60.0 Dimethylvinylated and trimethylated silica

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.

(R) indicates Registered Trademark

**DOW CORNING CORPORATION
Material Safety Data Sheet****SYLGARD(R) 184 SILICONE ELASTOMER CURING AGENT (CURING AGENT
information is below)****1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**

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.: 01015311

Revision Date: 2002/01/18

Generic Description: Silicone resin solution.
Physical Form: Liquid
Color: Colorless
Odor: Some odor

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 1

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68037-59-2	40.0 - 70.0	Dimethyl, methylhydrogen siloxane

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

3. EFFECTS OF OVEREXPOSUREAcute 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

SYLGARD(R) 184 SILICONE ELASTOMER CURING AGENT (CURING AGENT information is below)

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.

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.

5. FIRE FIGHTING MEASURES

Flash Point: > 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature: Not determined.
Flammability Limits in Air: Not determined.
Extinguishing Media: Carbon dioxide (CO2). Water spray. Dry chemical. Foam. 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.
Unusual Fire Hazards: None.

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. Hydrogen.

6. ACCIDENTAL RELEASE MEASURES

**DOW CORNING CORPORATION
Material Safety Data Sheet****SYLGARD(R) 184 SILICONE ELASTOMER CURING AGENT (CURING AGENT
information is below)**

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. Materials in contact with water, moisture, acids or bases have the potential to generate hydrogen gas. Recovered material should be stored in a vented 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. Call Dow Corning Corporation, (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact.

Product evolves minute quantities of flammable hydrogen gas which can accumulate. Adequately ventilate to maintain vapors well below flammability limits and exposure guidelines. Do not repackage. Do not store in glass containers which may shatter due to pressure build up. Clogged container vents may increase pressure build up. Keep container closed and store away from water or moisture.

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

There are no components with workplace exposure limits.

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.
Suitable Gloves: No special protection needed.
Inhalation: No respiratory protection should be needed.
Suitable Respirator: None should be needed.

Personal Protective Equipment for Spills

SYLGARD(R) 184 SILICONE ELASTOMER CURING AGENT (CURING AGENT information is below)

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 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Colorless
Odor:	Some odor
Specific Gravity @ 25°C:	1.03
Viscosity:	110 cSt
Freezing/Melting Point:	Not determined.
Boiling Point:	> 35C/95F
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	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, alcohols, acidic or basic materials, and many metals or metallic compounds, when in contact with product, liberate flammable hydrogen gas, which can form explosive mixtures in air.

11. TOXICOLOGICAL INFORMATION

SYLGARD(R) 184 SILICONE ELASTOMER CURING AGENT (CURING AGENT information is below)**Component Toxicology Information**

No known applicable information.

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.

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:

Reactive: D003

State or local laws may impose additional regulatory requirements regarding disposal.

Call Dow Corning Corporate Environmental Management, (989) 496-6315, if additional information is required.

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

Not subject to DOT.

SYLGARD(R) 184 SILICONE ELASTOMER CURING AGENT (CURING AGENT information is below)**Ocean Shipment (IMDG)**

Not subject to IMDG code.

Air Shipment (IATA)

NOT IATA REGULATED. (VENTED PACKAGES FORBIDDEN FOR AIR TRANSPORT)

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:**

None.

Section 304 CERCLA Hazardous Substances:

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
1330-20-7	0.3	Xylene

Section 312 Hazard Class:Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: Yes**Section 313 Toxic Chemicals:**

None present or none present in regulated quantities.

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.

SYLGARD(R) 184 SILICONE ELASTOMER CURING AGENT (CURING AGENT information is below)**Massachusetts**

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

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68037-59-2	40.0 - 70.0	Dimethyl, methylhydrogen siloxane
68083-19-2	15.0 - 40.0	Dimethyl siloxane, dimethylvinyl-terminated
68988-89-6	10.0 - 30.0	Dimethylvinylated and trimethylated silica
2554-06-5	1.0 - 5.0	Tetramethyl tetravinyl cyclotetrasiloxane

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68037-59-2	40.0 - 70.0	Dimethyl, methylhydrogen siloxane
68083-19-2	15.0 - 40.0	Dimethyl siloxane, dimethylvinyl-terminated
68988-89-6	10.0 - 30.0	Dimethylvinylated and trimethylated silica

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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