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#### **SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : SYLGARD(R) 567 PRIMERLESS SILICONE

ENCAPSULANT KIT (PART A information is below)

Product code : 0000000001696017

Chemical nature : Silicone elastomer

Manufacturer or supplier's details

Company name of supplier : Dow Corning Corporation

Address : South Saginaw Road

Midland Michigan 48686

Telephone : (989) 496-6000

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

CHEMTREC: (800) 424-9300

Disposal considerations : (989) 496-6315

Recommended use of the chemical and restrictions on use

Recommended use : Electrical industry and electronics

#### **SECTION 2. HAZARDS IDENTIFICATION**

#### **Emergency Overview**

Appearance	liquid
Color	black
Odor	none
Hazard Summary	No known physical or health hazards.

OSHA Regulatory status : This material is not hazardous under the criteria of the Federal

OSHA Hazard Communication Standard 29CFR 1910.1200.

**Potential Health Effects** 

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

sure.

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

exposure.



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Eyes : No significant irritation expected from a single exposure.

Ingestion : No significant effects expected from a single short-term

exposure.

Aggravated Medical Condi-

tion

: None known.

Carcinogenicity:

IARC Group 1: Carcinogenic to humans

Quartz 14808-60-7

Group 2B: Possibly carcinogenic to humans

Carbon black 1333-86-4

ACGIH Confirmed animal carcinogen with unknown relevance to hu-

mans

Carbon black 1333-86-4

**OSHA**No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a carcinogen or potential carcino-

gen by OSHA.

NTP Known to be human carcinogen

Quartz 14808-60-7

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

Chemical nature : Silicone elastomer

#### **Hazardous ingredients**

Chemical Name	CAS-No.	Concentration (%)
Quartz	14808-60-7	>= 30 - < 50
Zinc oxide	1314-13-2	>= 1 - < 5
Carbon black	1333-86-4	>= 0.1 - < 1

# **SECTION 4. FIRST AID MEASURES**

If inhaled : If inhaled, remove to fresh air.

Get medical attention if symptoms occur.



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In case of skin contact : Wash with water and soap as a precaution.

Get medical attention if symptoms occur.

In case of eye contact : Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

If swallowed, DO NOT induce vomiting.

Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : Treat symptomatically and supportively.

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

Suitable extinguishing media : Water spray

Alcohol-resistant foam

Dry chemical

Carbon dioxide (CO2)

Unsuitable extinguishing

media

: None known.

Specific hazards during fire

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Metal oxides
Silicon oxides
Carbon oxides
Formaldehyde

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

so.

Evacuate area.

Special protective equipment

for fire-fighters

Wear self-contained breathing apparatus for firefighting if nec-

essary.

Use personal protective equipment.

# **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emer-

Personal precautions, protec- : Follow safe handling advice and personal protective equip-

ment recommendations.



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gency procedures

Environmental precautions : Discharge into the environment must be avoided.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil

barriers).

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

: Soak up with inert absorbent material.

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 absor-

bent.

Local or national 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 deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

# **SECTION 7. HANDLING AND STORAGE**

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Handle in accordance with good industrial hygiene and safety

practice.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labeled containers.

Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

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

### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type	Control parame-	Basis
		(Form of	ters / Permissible	
		exposure)	concentration	



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Quartz	14808-60-7	TWA (total dust)	30 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA Z-3
Zinc oxide	1314-13-2	TWA (Respirable fraction)	2 mg/m3	ACGIH
		STEL (Respirable fraction)	10 mg/m3	ACGIH
		TWA (Dust)	5 mg/m3	NIOSH REL
		TWA (Fumes)	5 mg/m3	NIOSH REL
		ST (Fumes)	10 mg/m3	NIOSH REL
		C (Dust)	15 mg/m3	NIOSH REL
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Fumes)	5 mg/m3	OSHA Z-1
Carbon black	1333-86-4	TWA	3.5 mg/m3	NIOSH REL
		TWA	3.5 mg/m3	OSHA Z-1
		TWA (Inhalable fraction)	3 mg/m3	ACGIH

**Engineering measures** 

: Processing may form hazardous compounds (see section

10).

Ensure adequate ventilation, especially in confined areas.

Minimize workplace exposure concentrations.

#### Personal protective equipment

Respiratory protection

: 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. 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.

Hand protection



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Remarks : Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:

Safety glasses

Skin and body protection : Skin should be washed after contact.

Hygiene measures : Ensure that eye flushing systems and safety showers are

located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may re-

quire added precautions.

For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or

contact the Dow Corning customer service group.

### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Color : black

Odor : none

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling

range

: > 100 °C

Flash point : 115.5 °C

Method: Pensky-Martens closed cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit : No data available

Lower explosion limit : No data available



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Vapor pressure : No data available

Relative vapor density : No data available

Relative density : 1.24

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : No data available

Thermal decomposition : No data available

Viscosity

Viscosity, kinematic : 1,600 cSt

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

## **SECTION 10. STABILITY AND REACTIVITY**

: Not classified as a reactivity hazard. Reactivity

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

: Use at elevated temperatures may form highly hazardous

compounds.

Can react with strong oxidizing agents.

Hazardous decomposition products will be formed at elevated

temperatures.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition products

Thermal decomposition : Formaldehyde

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of : Inhalation

exposure

Skin contact



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Ingestion Eye contact

**Acute toxicity** 

Not classified based on available information.

**Ingredients:** 

Quartz:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Zinc oxide:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.7 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Carbon black:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 0.0046 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Skin corrosion/irritation

Not classified based on available information.

**Ingredients:** 

Zinc oxide:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Carbon black:

Species: Rabbit

Result: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Ingredients:

Zinc oxide:

Species: Rabbit



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Result: No eye irritation

Method: OECD Test Guideline 405

Carbon black: Species: Rabbit Result: No eye irritation

# Respiratory or skin sensitization

Skin sensitization: Not classified based on available information. Respiratory sensitization: Not classified based on available information.

# Ingredients:

# Zinc oxide:

Test Type: Maximization Test (GPMT) Routes of exposure: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: negative

## Carbon black:

Test Type: Buehler Test

Routes of exposure: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: negative

#### Germ cell mutagenicity

Not classified based on available information.

# **Ingredients:**

### Zinc oxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Test species: Rat

Application Route: Inhalation Method: OECD Test Guideline 474

Result: negative

Carbon black:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

# Carcinogenicity

Not classified based on available information.



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## **Ingredients:**

Quartz:

Species: Humans

Application Route: inhalation (dust/mist/fume)

Result: positive

Remarks: IARC (International Agency for Research on Cancer)

The substance is inextricably bound in the product and therefore does not contribute to a dust

inhalation hazard.

Carcinogenicity - Assess-

: Positive evidence from human epidemiological studies

(inhalation)

Carbon black:

Species: Rat

ment

ment

Application Route: Inhalation Exposure time: 2 Years

Result: positive Target Organs: Lungs

Remarks: The substance is inextricably bound in the product and therefore does not contribute

to a dust inhalation hazard.

Carcinogenicity - Assess-

: Sufficient evidence of carcinogenicity in inhalation studies with

animals

Reproductive toxicity

Not classified based on available information.

**Ingredients:** 

Zinc oxide:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 416

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Hamster

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

**Ingredients:** 

Quartz:

Routes of exposure: inhalation (dust/mist/fume)



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Target Organs: Lungs

Assessment: Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

#### Zinc oxide:

Routes of exposure: inhalation (dust/mist/fume)

Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

#### Carbon black:

Routes of exposure: inhalation (dust/mist/fume)

Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d

or less.

# Repeated dose toxicity

### **Ingredients:**

#### Quartz:

Species: Humans LOAEL: 0.053 mg/m3 Application Route: Inhalation Remarks: OECD SIDS

The substance is inextricably bound in the product and therefore does not contribute to a dust

inhalation hazard.

# Zinc oxide:

Species: Rat NOAEL: 1.5 mg/m3

Application Route: inhalation (dust/mist/fume)

Exposure time: 3 m

Method: OECD Test Guideline 413

### Carbon black:

Species: Rat NOAEL: 1 mg/m3 LOAEL: 7 mg/m3

Application Route: Inhalation Test atmosphere: dust/mist Exposure time: 90 d

Remarks: The substance is inextricably bound in the product and therefore does not contribute

to a dust inhalation hazard.

# **Aspiration toxicity**

Not classified based on available information.



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#### **SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity** 

Ingredients:
Zinc oxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 330 - 780 μg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other

aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 6.9 - 16.2 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 136 μg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Selenastrum capricornutum (green algae)): 24 µg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-

icity)

: 1

Toxicity to fish (Chronic toxic-

ity)

: NOEC (Oncorhynchus mykiss (rainbow trout)): 199 µg/l

Exposure time: 30 d

Remarks: Based on data from similar materials

Toxicity to daphnia and other

aquatic invertebrates (Chronic toxicity)

: NOEC (Daphnia magna (Water flea)): 37 µg/l

Exposure time: 21 d

Remarks: Based on data from similar materials

M-Factor (Chronic aquatic

toxicity)

: 1

Toxicity to bacteria : EC50: 5.2 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Carbon black:

Toxicity to fish : LC0 (Danio rerio (zebra fish)): 1,000 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 5,600 mg/l

Exposure time: 24 h

Method: OECD Test Guideline 202



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Toxicity to algae : NOEC (Desmodesmus subspicatus (green algae)): 10,000

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Persistence and degradability

No data available

**Bioaccumulative potential** 

Ingredients:

Zinc oxide:

Bioaccumulation : Species: Fish

Bioconcentration factor (BCF): 177

Mobility in soil
No data available

Other adverse effects

No data available

#### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods** 

Resource Conservation and

Recovery Act (RCRA)

: This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded

in its purchased form.

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

#### **SECTION 14. TRANSPORT INFORMATION**

### International Regulation

**UNRTDG** 

Not regulated as a dangerous good

**IATA-DGR** 

Not regulated as a dangerous good

**IMDG-Code** 

Not regulated as a dangerous good



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## Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

**Domestic regulation** 

**49 CFR** 

Not regulated as a dangerous good

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

OSHA Hazards : No OSHA Hazards

### **EPCRA - Emergency Planning and Community Right-to-Know**

### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

## SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : No chemicals in this material are subject to the reporting

requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels

established by SARA Title III, Section 313:

Zinc oxide 1314-13-2 1 %

# **US State Regulations**

### Pennsylvania Right To Know

Dimethyl Siloxane, Dimethylvinylsiloxy-	68083-19-2	50 - 70 %
terminated		
Quartz	14808-60-7	30 - 50 %
Zinc oxide	1314-13-2	1 - 5 %
Aluminum oxide	1344-28-1	0.1 - 1 %

### **New Jersey Right To Know**

Dimethyl Siloxane, Dimethylvinylsiloxy-terminated	68083-19-2	50 - 70 %
Quartz	14808-60-7	30 - 50 %
Zinc oxide	1314-13-2	1 - 5 %
Carbon black	1333-86-4	01-1%

California Prop 65 This product does not contain any chemicals known to the

State of California to cause cancer, birth, or any other

reproductive defects.



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The ingredients of this product are reported in the following inventories:

KECI : All ingredients listed, exempt or notified.

REACH : All ingredients (pre-)registered or exempt.

TSCA : All chemical substances in this material are included on or

exempted from listing on the TSCA Inventory of Chemical

Substances.

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

ENCS/ISHL : All components are listed on ENCS/ISHL or exempted from

inventory listing.

PICCS : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA

1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

NZIoC : All ingredients listed or exempt.

#### **Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)



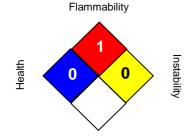
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#### **SECTION 16. OTHER INFORMATION**

#### **Further information**

# NFPA:



Special hazard.

### HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,

2 = Moderate, 3 = High

4 = Extreme, \* = Chronic

# Full text of other abbreviations

**ACGIH** : USA. ACGIH Threshold Limit Values (TLV) **NIOSH REL** USA. NIOSH Recommended Exposure Limits

OSHA Z-1 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

OSHA Z-3 USA. Occupational Exposure Limits (OSHA) - Table Z-3 Min-

eral Dusts

ACGIH / TWA 8-hour, time-weighted average ACGIH / STEL Short-term exposure limit

NIOSH REL / TWA Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded

at any time during a workday

NIOSH REL / C : Ceiling value not be exceeded at any time.

OSHA Z-1 / TWA : 8-hour time weighted average OSHA Z-3 / TWA : 8-hour time weighted average

Sources of key data used to compile the Material Safety

**Data Sheet** 

: Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, in-



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cluding an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8