

# Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Identification

Product form : Substance

Substance name : Polyhedral Oligomeric Silsesquioxane (POSS®)

CAS No : NA
Product code : Various
Formula : (RSiO1.5)n

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : POSS molecules are a unique class of materials, typically hybrid molecules consisting of a

silica cage core, with organic functional groups attached to the corners of the cage. POSS nanostructures range from 1-3 nm in diameter. POSS molecules can be used as reactive

ingredients for polymers, or as inert additives to impact desired properties.

Use of the substance/mixture : Scientific research and development

### 1.3. Details of the supplier of the safety data sheet

Hybrid Plastics 55 Runnels Dr.

Hattisburg, MS 39401 - USA

T +1.601.544.3466 - F +1.601.545.3103

info@hybridplastics.com Chemtel, Inc. MIS2738853

1.4. Emergency telephone number

Emergency number US & Canada: 1.800.255.3924

International: +01.813.248.0585

# **SECTION 2: Hazard(s) identification**

## 2.1. Classification of the substance or mixture

#### **GHS-US** classification

Not classified

#### 2.2. Label elements

#### **GHS-US labelling**

No labelling applicable

## 2.3. Other hazards

Other hazards not contributing to the

classification

: May be slightly irritating to eyes, respiratory system and skin.

# 2.4. Unknown acute toxicity (GHS US)

100% (oral, dermal, inhalation)

# **SECTION 3: Composition/information on ingredients**

#### 3.1. Substance

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Polyhedral Oligomeric Silsesquioxane (POSS®) (Main constituent)	Various	100	Not classified

Full text of H-statements: see section 16

#### 3.2. Mixture

Not applicable

## **SECTION 4: First aid measures**

### 4.1. Description of first aid measures

First-aid measures general : May be slightly irritating to eyes, respiratory system and skin.

First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position

comfortable for breathing.

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First-aid measures after skin contact : Prolonged or repeated contact may cause skin to become dry or cracked. Wash skin with mild

soap and water.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting

unless directed to do so by medical personnel.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Excessive dust production may cause minor eye irritation.

#### 4.3. Indication of any immediate medical attention and special treatment needed

All treatments should be based on observed signs and symptoms of distress in the patient.

# **SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

Suitable extinguishing media : If there is a fire nearby, use suitable extinguishing agents.

Unsuitable extinguishing media : None known.

#### 5.2. Special hazards arising from the substance or mixture

Explosion hazard : Product is not explosive.

Reactivity : Normally stable, even under fire exposure conditions, and not reactive with water.

5.3. Advice for firefighters

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Wear fire/flame resistant/retardant clothing. Wear a self-contained breathing apparatus.

### **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid creating or spreading dust. Dust deposited may be vacuum cleaned. Use a HEPA filter.

6.1.1. For non-emergency personnel

Protective equipment : Avoid contact with skin and eyes. Wear dust impervious gloves; Chemical goggles or safety

glasses.

Emergency procedures : Avoid all unnecessary exposure. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Wear dust impervious gloves; Chemical goggles or

safety glasses.

Emergency procedures : Collect as much as possible in a clean container for (preferable) reuse or disposal. No

additional risk management measures required.

### 6.2. Environmental precautions

Do not discharge into drains or the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Dust

deposited may be vacuum cleaned; use a high efficiency particulate air filter (HEPA filter).

#### 6.4. Reference to other sections

Section 7: safe handling. Section 8: personal protective equipment. Section 13: disposal information.

# **SECTION 7: Handling and storage**

# 7.1. Precautions for safe handling

Precautions for safe handling : Provide local exhaust or general room ventilation. Avoid dust formation.

Hygiene measures : Always wash your hands immediately after handling this product, and once again before

leaving the workplace.

## 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry, cool and well-ventilated place. Store in correctly labelled containers. Keep

container closed when not in use.

Prohibitions on mixed storage : Keep away from incompatible materials.

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# **SECTION 8: Exposure controls/personal protection**

## 8.1. Control parameters

Polyhedral Oligomeric Silsesquioxane (POSS®)		
ACGIH	ACGIH TWA (mg/m³)	as Insoluble Particulates not otherwise specified: 10 mg/m³ Inhalalable particles; 3 mg/m³ respirable particles
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ as Total dust

## 8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation to minimize exposure to dust.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Dust impervious gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Appropriate dust or mist respirator should be used if airborne particles are generated when handling this material. Use air-purifying respirator equipped with particulate filtering cartridges.

### **SECTION 9: Physical and chemical properties**

# 9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Powder
Colour : White
Odour : Odorless

Odour threshold : No data available No data available No data available Melting point Freezing point : No data available Boiling point No data available : No data available Flash point Relative evaporation rate (butyl acetate=1) No data available Flammability (solid, gas) No data available : No data available Explosive limits Explosive properties : No data available Oxidising properties : No data available Vapour pressure No data available Relative density No data available Relative vapour density at 20 °C : No data available Solubility Water: Varies Organic solvent: Varies

Log Pow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available

# 9.2. Other information

No additional information available

# **SECTION 10: Stability and reactivity**

# 10.1. Reactivity

Normally stable, even under fire exposure conditions, and not reactive with water.

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#### 10.2. Chemical stability

Stable under normal conditions.

# Possibility of hazardous reactions

Hazardous polymerization will not occur.

#### 10.4. Conditions to avoid

No additional information available

#### 10.5. Incompatible materials

No additional information available

#### Hazardous decomposition products

Carbon oxides (CO, CO2). Silicon oxides.

# **SECTION 11: Toxicological information**

#### 11.1. Information on toxicological effects

Likely routes of exposure : Dermal; Inhalation

Acute toxicity : Not classified. (Lack of data)

Skin corrosion/irritation : Not classified. (Based on available data, the classification criteria are not met) Serious eye damage/irritation : Not classified. (Based on available data, the classification criteria are not met) Respiratory or skin sensitisation : Not classified. (Based on available data, the classification criteria are not met)

Germ cell mutagenicity Not classified. (Lack of data) Carcinogenicity : Not classified. (Lack of data)

Polyhedral Oligomeric Silsesquioxane (POSS®)	
IARC group	Not listed in carcinogenicity class
National Toxicology Program (NTP) Status	Not listed in carcinogenicity class
Reproductive toxicity	: Not classified. (Lack of data)
Specific target organ toxicity (single exposure)	: Not classified. (Lack of data)

Specific target organ toxicity (repeated : Not classified. (Lack of data) exposure)

Aspiration hazard : Not classified. (Based on available data, the classification criteria are not met)

Potential adverse human health effects and : Silica dust (inert - but may irritate respiratory tract and eyes).

symptoms

# **SECTION 12: Ecological information**

#### 12.1. Toxicity

Ecology - general No ecotoxicological data about this product are known. Keep product out of sewers and

waterways.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

# Other adverse effects

No additional information available

# **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

: Avoid release to the environment. Dispose in a safe manner in accordance with local/national Waste disposal recommendations

regulations.

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# **SECTION 14: Transport information**

# Department of Transportation (DOT)

In accordance with DOT

Not considered a dangerous good for transport regulations

#### **TDG**

No additional information available

### Transport by sea

No additional information available

# Air transport

No additional information available

# **SECTION 15: Regulatory information**

### 15.1. US Federal regulations

No additional information available

### 15.2. International regulations

### **CANADA**

No additional information available

#### **EU-Regulations**

No additional information available

### **National regulations**

No additional information available

## 15.3. US State regulations

No additional information available

# **SECTION 16: Other information**

Indication of changes : Original Document.

Data sources : ACGIH (American Conference of Government Industrial Hygienists).

Internal Company test data.

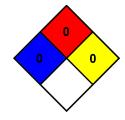
NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard

beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions,

and not reactive with water.



SDS US (GHS HazCom 2012)

SDS prepared by:

The Redstone Group, LLC 6077 Frantz Rd. Suite 206 Dublin, OH USA 43017 T 614-923-7472 www.redstonegrp.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

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