

**1 Identification**

- **Product identifier**
- **Trade name: SYLOID® 244**
- **Application of the substance / the preparation:**  
Intermediate product of varied applicability in industry and trade.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
W. R. Grace & Co.-Conn  
7500 Grace Drive  
Columbia MD 21044  
U. S. A.
- **Information department:**  
Health and Safety (9 AM to 5 PM-EST) 1-410-531-4000  
MSDS.Davison@grace.com
- **Emergency telephone number:**  
Chemtrec North America: +1-800-424-9300  
Chemtrec International: +1-703-527-3887  
Other Emergencies (24hr): +1-410-531-4000

**2 Hazard(s) identification**

- **Classification of the substance or mixture**  
The substance is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** None
- **Hazard pictograms** None
- **Signal word** None
- **Hazard statements** None
- **Hazard not otherwise classified**  
The product is very adsorbent and may have a drying effect on skin and eyes.  
When exceeding the OEL (Occupational Exposure Limit) a mechanical overburdening of the respiratory system is possible.

**3 Composition/information on ingredients**

- **Chemical characterization: Substances**
- **Additional information:**

· **CAS No. and description:**

CAS: 7631-86-9	amorphous silicon dioxide, chemically prepared	99-100%
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- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**4 First-aid measures**

- **Description of first aid measures**
- **General information:** Take note of the following instructions
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Generally the product does not irritate the skin.  
Wash with water.
- **After eye contact:**  
Flush opened eye with large quantities of running water for at least 30 minutes. If symptoms occur, consult a doctor.

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- **After swallowing:** Seek medical attention. Do not induce vomiting.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information available.
- **Hazardous combustion products** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear personal protective equipment.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.
- **Environmental precautions:** Damp down dust with water spray.
- **Methods and material for containment and cleaning up:**  
Vacuuming or wet sweeping may be used to avoid dust dispersal.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.  
No dangerous substances are released.
- **Protective Action Criteria for Chemicals**

· <b>PAC-1:</b>	
18 mg/m <sup>3</sup>	
· <b>PAC-2:</b>	
740 mg/m <sup>3</sup>	
· <b>PAC-3:</b>	
4,500 mg/m <sup>3</sup>	

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
Prevent formation of dust.  
Keep receptacles tightly sealed.  
Provide suction extractors if dust is formed.  
Use appropriate industrial vacuum cleaners or central vacuum systems for dust removal.  
Take precautionary measures against static discharges.
- **Information about protection against explosions and fires:**  
Protect against electrostatic charges.  
The product is not flammable.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in dry conditions.  
This product is hygroscopic.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

IDLH	Short-term value: 3000 mg/m <sup>3</sup> IDLH: Immediately Dangerous to Life or Health
PEL	Long-term value: 80mg/m <sup>3</sup> /%SiO <sub>2</sub> mg/m <sup>3</sup> OSHA TWA for amorphous silica
REL	Long-term value: 6 mg/m <sup>3</sup> NIOSH TWA
TLV	Long-term value: 10* 5** mg/m <sup>3</sup> OSHA TWA *Total dust **Respirable fraction

· **Additional Occupational Exposure Limit Values for possible hazards during processing:**

**Dust inhalable**

PEL	Long-term value: 15 mg/m <sup>3</sup> TWA
REL	Long-term value: 15 mg/m <sup>3</sup> TWA

**Dust respirable**

PEL	Long-term value: 5 mg/m <sup>3</sup> TWA
REL	Long-term value: 5 mg/m <sup>3</sup> TWA

- **Additional information:** Valid lists at time of creation were used as basis.
- **Exposure controls**
- **Appropriate engineering controls** No further relevant information available.
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:**  
Required if the Occupational Exposure Limit (OEL) value is exceeded. As appropriate for the employee exposure, use a NIOSH approved respirator and cartridge.  
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use.
- **Protection of hands:**  
Wear gloves for the protection against mechanical hazards.  
Use gloves of stable material

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**Protective gloves**

Check protective gloves prior to each use for their proper condition.  
Check the permeability prior to each new use of the glove.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Butyl rubber, BR

Nitrile rubber, NBR

· **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR

Nitrile rubber, NBR

· **Not suitable are gloves made of the following materials:** Strong fabric gloves

· **Eye protection:**



**Safety glasses**

· **Skin and Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Powder

**Color:** White

· **Odor:** Characteristic

· **Odor threshold:** Not applicable.

· **pH-value at 20 °C (68 °F):** 3.5-9.0

· **Change in condition**

**Melting point/Melting range:**  $>1700$  °C ( $>3,092$  °F)

**Boiling point/Boiling range:**  $>1700$  °C ( $>3,092$  °F)

· **Conditions of flammability**

**Flash point:** Not determined.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Auto igniting:** Not applicable.

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· <b>Decomposition temperature:</b>	Not applicable.
· <b>Auto ignition temperature:</b>	Product is not self-igniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not applicable.
<b>Upper:</b>	Not applicable.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density at 20 °C (68 °F):</b>	2.17 - 2.20 g/cm <sup>3</sup> (18.10865 - 18.359 lbs/gal)
· <b>Bulk density at 20 °C (68 °F):</b>	70 - 600 kg/m <sup>3</sup>
· <b>Vapor density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with</b>	
<b>Water at 20 °C (68 °F):</b>	≥100 mg/l (OECD 105)
· <b>Coefficient of water/oil distribution:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC0	>140->2,000 mg/m <sup>3</sup> /4h (rat) (OCED 403) Maximum attainable concentration, mortality does not appear.

- **Primary irritant effect:**

- **on the skin:**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

Irritation of skin | IS | 0 (rabbit) (OECD 404)

- **on the eye:**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

Irritation of eyes | IS | 0 (rabbit) (OECD 405)

- **Respiratory sensitization** No further relevant information available.
- **Skin sensitization** No further relevant information available.

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· **Additional toxicological information:**

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

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· **NTP (National Toxicology Program)**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

· **Repeated dose toxicity**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

Oral	NOAEL (90 d)	9,000 mg/kg bw/day (rat) (OECD 408)
Inhalative	NOAEL (90d)	31 mg/m <sup>3</sup> (rat) (OECD 413)

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **Carcinogenicity**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

Oral	NOAEL (carcinogenicity)	3,950-5,530 mg/kg bw/day (mouse) Literature
		1,830 mg/kg bw/day (rat) Literature

· **Mutagenicity**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

AMES Test	>5 mg/plate (in-vitro) (OECD 471) negative, with and without metabolic activation ECHA 2012
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· **Reproductive toxicity**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

Oral	NOAEL (maternal toxicity)	1,350 mg/kg bw/day (rat) (OECD 414)
	NOAEL (teratogenicity)	1,350 mg/kg bw/day (rat) (OECD 414)

· **Specific target organ toxicity (single exposure)** No further relevant information available.

· **Specific target organ toxicity (repeated exposure)** No further relevant information available.

**12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:**

· **Fish toxicity**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

LC0 (96 h) (static)	10,000 mg/l (zebra fish) (OECD 203)
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· **Water flea toxicity**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

EC50 (24 h)	>1,000 mg/l (Daphnia magna) (OECD 202)
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· **Algae toxicity**

**CAS: 7631-86-9 amorphous silicon dioxide, chemically prepared**

EC50 (72 h)	>10,000 mg/l (Scenedesmus subspicatus) (OECD 201) comparable substance
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· **Persistence and degradability** No further relevant information available.

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- **Other information:**  
Amorphous silica dioxide is chemically and biologically inert.  
By the insolubility in water there is a separation at every filtration and sedimentation process.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** Does not accumulate in organisms
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not determined.
- **vPvB:** Not determined.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Precautions for disposal:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State/provincial and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state/provincial and local requirements.

**14 Transport information**

· <b>UN-Number</b> · <b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable.
· <b>UN proper shipping name</b> · <b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable.
· <b>Transport hazard class(es)</b> · <b>DOT, ADR, ADN, IMDG, IATA</b> · <b>Class</b>	Not applicable.
· <b>Packing group</b> · <b>DOT, ADR, IMDG, IATA</b>	Not applicable.
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Segregation groups</b>	-
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications. GRACE recommendation for air transport: Cargo aircraft.

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**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **SARA**

· **SARA 302/304**

Substance is not listed.

· **SARA 313**

Substance is not listed.

· **SARA 311/312** Not applicable.

· **TSCA (Toxic Substances Control Act):**

ACTIVE

· **Hazardous Air Pollutants**

Substance is not listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **Canadian DSL**

CAS: 7631-86-9 | amorphous silicon dioxide, chemically prepared

· **Canadian NDSL**

Substance is not listed.

· **European EINECS**

Substance is listed.

· **Philippines Inventory of Chemicals and Chemical Substances PICCS**

Substance is listed.

· **Inventory of the Existing Chemical Substances manufactured or imported in China IECSC**

CAS: 7631-86-9 | amorphous silicon dioxide, chemically prepared

· **Australian Inventory of Industrial Chemicals (AIIC)**

Substance is listed.

· **Japanese Existing and New Chemical Substance List ENCS**

1-548

· **Korean Existing Chemical Inventory KECI**

KE-31032

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- **New Zealand Inventory (ERMA)** All ingredients are listed.

- **TCSCA (Taiwan)**

EPEP4A01648271

- **Russian Register of Potentially Hazardous Chemical and Biological Substances (RPOHV)**

№ AT-000209 от 18.01.1995 г.

- **New Zealand Inventory of Chemicals (NZIoC)**

Substance is listed.

- **Existing Chemical Directory of Thailand (DIW)**

Substance is listed.

- **TCSI - Taiwan Chemical Substance Inventory**

Substance is listed.

- **Mexican National Inventory of Chemical Substances (INSQ)**

Substance is listed.

- **GHS label elements** None
- **Hazard pictograms** None
- **Signal word** None
- **Hazard statements** None
- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** GRACE Safety & Health Department
- **Other information:**  
The applicable regulations and industrial hygiene standards have to be considered.
- **Contact:**  
SALES OFFICES

USA:  
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· **Other information:**

- **Date of preparation / last revision** 07/22/2024 / 9.9
- **The first date of preparation** 02/17/2015
- **Number of revision times and the latest revision date** 10.0 / 07/22/2024

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ECHA: European Chemical Agency  
EPA: Environmental Protection Agency  
EC50: Half maximal effective concentration  
NOAEL: No Observed Adverse Effect Level  
BCF: Bioconcentration Factor  
CLH: Harmonised classification and labelling  
ADR: Accord relatif au transport international des marchandises dangereuses par route (Agreement Concerning the Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
ATE: Acute toxicity estimate values

- **Others** No further relevant information available.

· \* **Data compared to the previous version altered.**

USA