Safety Data Sheet
acc. to OSHA HCS

Printing date 12/28/2017 Version: 9.1 Reviewed on 12/28/2017

1 Identification

· **Product identifier**

· **Trade name: SYLOID® AL-1**

· **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:**
GRACE
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
· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 1
Fire = 0
Reactivity = 0

· **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.

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*
3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **Description:**

· **CAS No. and description:**		
7631-86-9	amorphous silicon dioxide, chemically prepared	99-100%

4 First-aid measures

· **Description of first aid measures**

· **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.

· **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** No dangerous substances are released.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**
18 mg/m3

· **PAC-2:**
740 mg/m3

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· **PAC-3:**
4,500 mg/m3

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.
· **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 item 7.
· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
7631-86-9 amorphous silicon dioxide, chemically prepared	
IDLH	Short-term value: 3000 mg/m³ IDLH: Immediately Dangerous to Life or Health
PEL	Long-term value: 80/%SiO2 mg/m³ OSHA TWA for amorphous silica
REL	Long-term value: 6 mg/m³ NIOSH TWA
TLV	Long-term value: 10* 5** mg/m³ ACGIH TWA *Total dust **Respirable fraction

· **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.

· **Protection of hands:**
Wear gloves for the protection against mechanical hazards.
Use gloves of stable material (e.g. Nitrile)

Protective gloves

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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: ≥ 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

· **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 available.
· **pH-value at 20 °C (68 °F):**	4.0-9.0
· **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 available.
· **Flammability (solid, gaseous):**	Product is not flammable.
· **Ignition temperature:**	Not available.
· **Decomposition temperature:**	Not available.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.

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· **Explosion limits:**	
Lower:	- Vol %
Upper:	- Vol %
· **Vapor pressure at 20 °C (68 °F):**	- hPa
· **Density at 20 °C (68 °F):**	2,17 - 2,20 g/cm³ (18.10865-18.359 lbs/gal)
· **Bulk density at 20 °C (68 °F):**	70 - 600 kg/m³
· **Vapor density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Insoluble.
· **Coefficient of water/oil distribution:**	Not available.
· **Viscosity:**	
Dynamic at 20 °C (68 °F):	- mPas
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability** No decomposition if used 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 the likely routes of exposure**
· **Delayed and immediate effects and chronic effects from short or long term exposure**
· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
7631-86-9 amorphous silicon dioxide, chemically prepared		
Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rabbit) (no guidance available)
Inhalative	LC0	>140->2,000 mg/m³/4h (rat) (OCED 403) Maximum attainable concentration, mortality does not appear.

· **Primary irritant effect:**

· **on the skin:**		
7631-86-9 amorphous silicon dioxide, chemically prepared		
Irritation of skin	IS	0 (rabbit) (OECD 404)

· **on the eye:**		
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)**
3

· **NTP (National Toxicology Program)**
Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
Substance is not listed.

· **Repeated dose toxicity**		
7631-86-9 amorphous silicon dioxide, chemically prepared		
Oral	NOAEL (90 d)	9,000 mg/kg bw/day (rat) (OECD 408)
Inhalative	NOAEC (90 d)	1 mg/m³ (rat) (OECD 413)

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

· **Carcinogenicity** No further relevant information available.

· **Mutagenicity**	
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

· **Reproductive toxicity**		
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.

· **Aspiration hazard** No further relevant information available.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

· **Fish toxicity**	
7631-86-9 amorphous silicon dioxide, chemically prepared	
LC0 (96 h) (static)	10,000 mg/l (zebra fish) (OECD 203)

· **Water flea toxicity**	
7631-86-9 amorphous silicon dioxide, chemically prepared	
EC50 (24 h)	>1,000 mg/l (Daphnia magna) (OECD 202)

· **Algae toxicity**	
7631-86-9 amorphous silicon dioxide, chemically prepared	
EC50 (72 h)	>10,000 mg/l (Scenedesmus subspicatus) (OECD 201) comparable substance

· **Persistence and degradability** No further relevant information available.

· **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

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· **Mobility in soil** No further relevant information available.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **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

· **UN-Number** · **DOT, ADR, ADN, IMDG, IATA**	None
· **UN proper shipping name** · **DOT, ADR, ADN, IMDG, IATA**	None
· **Transport hazard class(es)** · **DOT, ADR, ADN, IMDG, IATA** · **Class**	None
· **Packing group** · **DOT, ADR, IMDG, IATA**	None
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications. GRACE recommendation for air transport: Cargo aircraft only.

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.

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

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· **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 established by ACGIH)**
Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is not listed.

· **Canadian DSL**

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**
Substance is listed.

· **Australian Inventory of Chemical Substances AICS**
Substance is listed.

· **Existing and New Chemical Substance List ENCS**
1-548

· **Korean Existing Chemical Inventory KECI**
KE-31032

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

· **TCSCA (Taiwan)**
EPEP4A01648271

· **New Zealand Inventory of Chemicals (NZIoC)**
Substance is listed.

· **GHS label elements** None
· **Hazard pictograms** None
· **Signal word** None
· **Hazard statements** None

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

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· **Tarif number** 2811 2200

· **Contact:**
SALES OFFICES

USA:
GRACE
W. R. Grace & Co.-Conn
7500 Grace DR
Columbia, MD 21044
Tel: +1 410-531 4000

Europe:
Grace GmbH
In der Hollerhecke 1
D-67545 Worms, Germany
Tel: +49 6241 4030

Asia Pacific:
Grace Products (Singapore) Pte Ltd
230 Orchard Road
09-232, Faber House
Singapore 238854
Tel: +65 6737 3033
Fax: +65 6737 5826

Grace Trading (Shanghai) Ltd
19th Floor K.Wah Center
1010 Huai Hai Zhong Road
Shanghai, 200031 China
T (电话): +86 21 3325 8288
F (传真): +86 21 5405 1500

W. R. Grace Japan K.K
Kohken New River Bldg 3F
2-21-18, Shinkawa
Chuo-ku, Tokyo 104-0033
JAPAN
Tel: +81 3.3537.6006
Fax: +81 3.3537.6007

· **Other information:** MADE IN USA
· **Date of preparation / last revision** 12/28/2017 / 9.0
· **The first date of preparation** 02/17/2015
· **Number of revision times and the latest revision date** 9.1 / 12/28/2017
· **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
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
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

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PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

· **Others** No further relevant information available.
· *** Data compared to the previous version altered.**