

Product name: AG-SWJ Modified Synthesis of Amorphous Silica Aerogel Slurry

issued: 22.02.2023



**EU safety data sheet according to (EG) Nr. 1907/2006**

**Product name:** Modified Synthesis of Amorphous Silica Aerogel Slurry

**Current version:** 1.0.0, **issued:** 22.02.2023 **Replaced version:** -, **issued:** -

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

### 1.1 Product identifier

**Product name:** Modified Synthesis of Amorphous Silica Aerogel Slurry

**Product code:** AG-SWJ Aerogel Slurry

### 1.2 Details of the supplier of the safety data sheet

Zhou Global Sourcing GmbH

Bocksgasse 11

73525 Schwäbisch Gmünd

Telephone no. +49 (0) 7171 9059 799

e-mail info@insulation1.de

### 1.3 Emergency telephone number

**GERMANY:** CHEMTREC 0800-181-7059

## SECTION 2: composition of the substance or mixture

Main components	CAS No.	weight-%
Modified silica aerogel powder	102262-30-6	8-30
Deionized water	7732-18-5	68-90
Other		< 2

SECTION 3: Hazard statements

<b>Classification:</b>	No harm under the Globally Harmonized System (GHS).
<b>Emergency Overview:</b>	AG-SWJ aerogel slurry may produce a small amount of dust under specific action. Dust may cause mechanical irritation to lungs and skin.
<b>Potential health effects</b>	
<b>Inhalation:</b>	Dust may irritate respiratory tract. Provide proper exhaust ventilation in places where dust will be generated.
<b>Eye contact:</b>	May cause mechanical stimulation. Avoid eye contact.
<b>Skin contact:</b>	May cause mechanical irritation and dry skin. Avoid contact with skin. No human sensitization cases have been reported.
<b>Ingestion:</b>	Do not eat. If eaten by mistake the person must be immediately sent to hospital.
<b>Acute Health Hazards:</b>	The powder of the product may cause itchy throat, red and swollen eyes and itchy skin.
<b>Chronic Health Hazards:</b>	Product is not known to pose any chronic health hazards.
<b>Medical Conditions Aggravated by Exposure:</b>	Inhalation of dust can irritate respiratory tract. Excessive inhalation of dust may aggravate the original chronic lung disease, such as bronchitis asthma, pulmonary edema, asthma, etc.

Synthesis of amorphous silica. No evidence of carcinogenicity was observed in repeated oral or inhalation exposures of amorphous silica in multiple animal species. Similarly, epidemiological studies show that there is no evidence that amorphous silica causes human cancer.

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#### SECTION 4: First aid measures

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- General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance.
- Skin Contact:** Wash thoroughly with soap and water. Seek medical attention if symptoms develop.
- Eye contact:** Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention if symptoms develop.
- Inhalation:** If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.
- Ingestion:** If eaten by mistake the person must be immediately sent to hospital.

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#### SECTION 5: Fire-fighting measures

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**Flammability:** not applicable

**Ignition point:** not applicable

**Flash point:** not applicable

**Suitable extinguishing agent:**

Use foam, carbon dioxide (CO<sub>2</sub>), chemical dry powder or water spray. If water is used, mist water is recommended.

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#### SECTION 6: Environmental hazards and measures to limit exposure

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##### 6.1 Personal protection

Avoid the formation of dust and debris, and avoid inhaling dust and debris. Use personal protective equipment to ensure ventilation.

##### 6.2 Methods for cleaning up

If the leakage contains dust or may produce dust, use an explosion-proof vacuum cleaner and/or a cleaning system suitable for combustible dust. It is recommended to use a vacuum cleaner with high efficiency particulate air (HEPA) filtration.

## SECTION 7: Operation, disposal and storage

### 7.1 Safe operation

Dust may form explosive mixtures in the air. Take precautions against electrostatic discharge. The metal parts of all mixing and processing equipment must be grounded. Before starting the transfer operation, ensure that all equipment is electrostatically grounded.

### 7.2 Storage conditions

Keep the container sealed and in a dry and well-ventilated place. Do not store with volatile chemicals, as they may be adsorbed on the product. Store at room temperature in a dark environment. Keep away from heat and fire sources. Store in properly labeled containers. Dust accumulation should not be allowed on the surface.

## SECTION 8: Exposure controls/personal protection

### 8.1 Exposure limit values

Amorphous silica, regulatory exposure limits are found in general silica (CAS Number 7631-86-9). The table below is a summary. Please see the specific legislation for complete information.

<b>US OSHA PEL (TWA)<sup>a</sup></b>	15 mg m <sup>-3</sup> (total dust) 5 mg m <sup>-3</sup> (respirable fraction)
<b>US ACGH<sup>b</sup></b>	10 mg m <sup>-3</sup> (inhalable) 3 mg m <sup>-3</sup> (respirable)
<b>UK WEL</b>	6 mg m <sup>-3</sup> (inhalable fraction) 2.4 mg m <sup>-3</sup> (respirable fraction)
<b>Germany TRGS 900</b>	4 mg m <sup>-3</sup> (inhalable fraction)

### 8.2 Personal protective equipment

#### Ventilation:

Ventilation measures shall be taken according to local industrial hygiene standards.

#### Respiratory protection:

If local exhaust ventilation is insufficient, an approved respirator may be necessary.

#### Hand protection:

Wear protective gloves to avoid dry skin. Use protective cream before handling the product. Wash hands and other skin in contact with mild soap and water.

#### Eye protection:

Wear goggles with edge guards.

**Skin and body protection:**

Wear suitable protective clothing. Wash clothing daily. Work clothing should not be allowed out of the workplace.

**Health measures:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

## SECTION 9: Physical properties

**Physical state**

Appearance	Sticky creamy liquid
Color	White

**Characteristic**

Solubility in Water	Soluble
Density	400-600 kg m <sup>-3</sup> (wet slurry) 200-300 kg m <sup>-3</sup> (dry slurry)
pH	7-10
Odor	Low odor
Flammability	Inflammable

## SECTION 10: Stability and reactivity

**Chemical stability:** Maintain stability under recommended operation, disposal and storage conditions. The thermal decomposition temperature is higher than 300°C.

**Conditions to be avoided:** Keep away from heat source and fire source to avoid dust formation. When heated above 300°C, the surface treatment of aerogels will decompose. The vapor caused by decomposition should be pumped away. Formaldehyde may be released when heated to high temperature in air.

**Hazardous decomposition products:** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Formaldehyde, organic products of decomposition

#### SECTION 11: Toxicological information

<b>Acute toxicity:</b>	LD 50 orally-rats-during the observation period after a single oral administration of 5000 mg kg <sup>-1</sup> , there were no deaths and signs of toxicity. (OECD 402)
<b>Skin corrosion and irritation:</b>	Not classified as irritant (OECD 404)
<b>Sensitization:</b>	Unsensitized
<b>Carcinogenicity:</b>	The product itself is non-toxic.
<b>Inhalation Hazard:</b>	Based on industrial experience and available data, no inhalation hazard is expected.

#### SECTION 12: Ecological information

Ecological information based on literature review for synthetic amorphous silica (CAS Number 7683-86-9).

<b>Aquatic Toxicity:</b>	Fish (zebrafish) LC50 (96 hours): > 10,000 mg/L (OECD 203) There is no acute toxicity to <i>Daphnia magna</i> in the range of EL and EL50 from 1000 to 10,000 mg/L (OECD 202)
<b>Mobility:</b>	No migration is expected.
<b>Persistence and Biodegradability:</b>	The method for determining biodegradability is not applicable to inorganic substances.
<b>Bioaccumulative potential:</b>	Due to the physical and chemical characteristics of the substance, it is not expected to bioaccumulate.
<b>Other adverse effects:</b>	No data

#### SECTION 13: Disposal considerations

Landfill treatment of products shall be carried out in accordance with relevant provincial, municipal and local regulations. The person who generates waste must determine its correct classification.

#### SECTION 14: Transport information

**Shipping Name:** Not regulated for transport

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**Hazard category:** Unregulated  
**UN/IN:** Not Controlled  
**Packing group:** Unregulated  
**Required label(s):** None  
**Marine pollutant:** None  
**ADR/RID:** Non-Hazardous Commodity  
**IMDG:** Non-Hazardous Commodity  
**IATA:** Non-Hazardous Commodity

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#### SECTION 15: Regulatory information

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Safe use, storage, transportation, chemical handling, classification and labelling as specified by the following laws/regulations/standards:

Specification for Classification and Labelling of Chemicals (GB 30000.2 ~ 29-2013);

General Rules for Classification and Hazard Publicity of Chemicals (GB 13690-2009);

Regulations on Preparation of Chemical Safety Labels (GB 15258-2009);

This safety data sheet is prepared in accordance with the requirements of the national standard GB/T 16483-2008 "Technical Specifications for Chemical Safety-Contents and Project Sequence" and its supplement, and the national standard "Guidelines for Compilation of Technical Specifications for Chemical Safety".

List of hazardous chemicals: not included

List of Highly Toxic Chemicals: Not Included

List of Dangerous Goods: Not included

#### **International Directory:**

**TSCA:** Compliance with US Toxic Substances Control Act Section 8 (b) List

<b>DSL/NDSL-Canada:</b>	Compliance with Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS:	Compliance with European List of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS:	Compliance with Japanese Existing and New Chemical Substances Inventory
IECSC:	Compliance with The Inventory of Existing Chemical Substance in China
KECL:	Compliance with Korean Existing Chemicals List
PICCs:	Compliance with Philippine Inventory of Chemicals and Chemical Substances
AICS:	Compliance with Australian Inventory of Chemical Substances
NZIoC:	Compliance with New Zealand Inventory of Chemicals

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#### SECTION 16: Additional information

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