

Creation Date 22-Feb-2010

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Revision Number 4

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product identifier**

Product Description:	<b>Silica gel</b>
Cat No. :	<b>419290000; 419290010; 419290050; 419292500</b>
Synonyms	Silicon dioxide
CAS-No	7631-86-9
EC-No.	231-545-4
Molecular Formula	O2 Si
Reach Registration Number	01-2119379499-16

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

Recommended Use	Laboratory chemicals
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	No Information available

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

Company	Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium
E-mail address	begel.sdsdesk@thermofisher.com

**1.4. Emergency telephone number**

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

**SECTION 2: HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture****CLP Classification - Regulation (EC) No 1272/2008****Physical hazards**

Based on available data, the classification criteria are not met

**Health hazards**

Based on available data, the classification criteria are not met

**Environmental hazards**

Based on available data, the classification criteria are not met

**Classification according to EU Directives 67/548/EEC or 1999/45/EC****R-phrase(s)** none

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

**SECTION 2: HAZARDS IDENTIFICATION****2.2. Label elements****Hazard Statements****Precautionary Statements****2.3. Other hazards**

No information available.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Substances**

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008	DSD Classification - 67/548/EEC
Silica, amorphous	7631-86-9	EEC No. 231-545-4 418-260-2	>95	-	-

**Reach Registration Number**

01-2119379499-16

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

**SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures**

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
<b>Protection of First-aiders</b>	No special precautions required.

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

No information available

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

**Notes to Physician** Treat symptomatically

**SECTION 5: FIREFIGHTING MEASURES**

**SECTION 5: FIREFIGHTING MEASURES****5.1. Extinguishing media****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

**Extinguishing media which must not be used for safety reasons**

No information available.

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

None known.

**Hazardous Combustion Products**

None under normal use conditions

**5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

**6.2. Environmental precautions**

Should not be released into the environment.

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

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

**6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE****7.1. Precautions for safe handling**

Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation.

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

Keep containers tightly closed in a dry, cool and well-ventilated place.

**7.3. Specific end use(s)**

Use in laboratories

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters**

## Silica gel

**Exposure limits**

List source(s):

**UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement.

**IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	European Union	The United Kingdom	France	Belgium	Spain
Silica, amorphous		STEL: 18 mg/m <sup>3</sup> 15 min STEL: 7.2 mg/m <sup>3</sup> 15 min TWA: 6 mg/m <sup>3</sup> 8 hr TWA: 2.4 mg/m <sup>3</sup> 8 hr			

Component	Italy	Germany	Portugal	The Netherlands	Finland
Silica, amorphous		TWA: 4 mg/m <sup>3</sup> (8 Stunden). AGW - TWA: 4 mg/m <sup>3</sup> (8 Stunden). MAK			

Component	Austria	Denmark	Switzerland	Poland	Norway
Silica, amorphous	TWA: 4 mg/m <sup>3</sup> 8 Stunden TWA: 0.3 mg/m <sup>3</sup> 8 Stunden		MAK: 4 mg/m <sup>3</sup> 8 Stunden MAK: 0.3 mg/m <sup>3</sup> 8 Stunden		TWA: 1.5 mg/m <sup>3</sup> 8 timer STEL: 3 mg/m <sup>3</sup> 15 minutter. respirable dust

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Silica, amorphous			TWA: 6 mg/m <sup>3</sup> 8 hr. total inhalable dust TWA: 2.4 mg/m <sup>3</sup> 8 hr. respirable dust		TWA: 0.1 mg/m <sup>3</sup> 8 hodinách. respirable fraction TWA: 4.0 mg/m <sup>3</sup> 8 hodinách. amorphous SiO <sub>2</sub>

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Silica, amorphous	TWA: 2 mg/m <sup>3</sup> 8 tundides. respirable dust				

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Silica, amorphous	TWA: 1 mg/m <sup>3</sup>				

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Silica, amorphous		TWA: 4.0 mg/m <sup>3</sup> total aerosol	TWA: 4 mg/m <sup>3</sup> 8 urah inhalable fraction		

**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

**Derived No Effect Level (DNEL)**      Workers

<u>Route of exposure</u>	<u>Acute effects (local)</u>	<u>Acute effects (systemic)</u>	<u>Chronic effects (local)</u>	<u>Chronic effects (systemic)</u>
Oral Dermal Inhalation			4 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

#### Engineering Measures

None under normal use conditions..

#### Personal protective equipment

##### Eye Protection

Safety glasses with side-shields (European standard - EN 166)

##### Hand Protection

Protective gloves

<u>Glove material</u>	<u>Breakthrough time</u>	<u>Glove thickness</u>	<u>EU standard</u>	<u>Glove comments</u>
Natural rubber Nitrile rubber Neoprene PVC	> 480 minutes	-	Level 1 EN388	(minimum requirement)

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

#### Respiratory Protection

No protective equipment is needed under normal use conditions.

#### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced..

**Recommended Filter type:** Particle filter.

#### Small scale/Laboratory use

Maintain adequate ventilation

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

#### Environmental exposure controls

No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	White	
<b>Physical State</b>	Solid.	
<b>Odor</b>	odorless	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	5.5 - 8	10% aq.solution

Silica gel

<b>Melting Point/Range</b>	No data available	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	No information available.	
<b>Flash Point</b>	No information available.	<b>Method</b> - No information available.
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available.	
<b>Explosion Limits</b>	No data available.	
<b>Vapor Pressure</b>	No data available	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	Insoluble	
<b>Solubility in other solvents</b>	No information available.	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Autoignition Temperature</b>	Not applicable	
<b>Decomposition temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available.	
<b>Oxidizing Properties</b>	No information available.	

**9.2. Other information**

<b>Molecular Formula</b>	O2 Si
<b>Molecular Weight</b>	60.08

**SECTION 10: STABILITY AND REACTIVITY****10.1. Reactivity**

None known, based on information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

**10.4. Conditions to avoid**

Incompatible products, Excess heat, Avoid dust formation.

**10.5. Incompatible materials**

Strong oxidizing agents.

**10.6. Hazardous decomposition products**

None under normal use conditions

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****Product Information****(a) acute toxicity;**  
Oral

Based on available data, the classification criteria are not met

Silica gel

**Dermal  
Inhalation**Based on available data, the classification criteria are not met  
Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silica, amorphous	5000 mg/kg ( Rat )	>2000 mg/kg ( Rabbit )	>2.2 mg/L ( Rat ) 4 h

(b) **skin corrosion/irritation;** Based on available data, the classification criteria are not met(c) **serious eye damage/irritation;** Based on available data, the classification criteria are not met(d) **respiratory or skin sensitization;****Respiratory  
Skin**Based on available data, the classification criteria are not met  
Based on available data, the classification criteria are not met(e) **germ cell mutagenicity;** Based on available data, the classification criteria are not met(f) **carcinogenicity;** Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Silica, amorphous				group 3

(g) **reproductive toxicity;** Based on available data, the classification criteria are not met(h) **STOT-single exposure;** Based on available data, the classification criteria are not met(i) **STOT-repeated exposure;** Based on available data, the classification criteria are not met**Target Organs**

Respiratory system.

(j) **aspiration hazard;**Not applicable  
Solid**Other Adverse Effects**

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

**Symptoms / effects,  
both acute and delayed**

No information available.

**SECTION 12: ECOLOGICAL INFORMATION****12.1. Toxicity****Ecotoxicity effects**

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Silica, amorphous	5000 mg/L LC50 96 h	EC50: 7600 mg/L/48h	EC50: 440 mg/L/72h	

**12.2. Persistence and degradability****Persistence  
Degradability**Insoluble in water.  
Not relevant for inorganic substances.**12.3. Bioaccumulative potential**

May have some potential to bioaccumulate

**12.4. Mobility in soil**

No information available. Is not likely mobile in the environment due its low water solubility.

**12.5. Results of PBT and vPvB  
assessment**

No data available for assessment

**12.6. Other adverse effects**

**Endocrine Disruptor Information**  
**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected endocrine disruptors

This product does not contain any known or suspected substance

This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Waste treatment methods**

**Waste from Residues / Unused Products**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**Contaminated Packaging**

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

**European Waste Catalogue (EWC)**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

Not regulated

**14.1. UN number**

**14.2. UN proper shipping name**

**14.3. Transport hazard class(es)**

**14.4. Packing group**

**ADR**

Not regulated

**14.1. UN number**

**14.2. UN proper shipping name**

**14.3. Transport hazard class(es)**

**14.4. Packing group**

**IATA**

Not regulated

**14.1. UN number**

**14.2. UN proper shipping name**

**14.3. Transport hazard class(es)**

**14.4. Packing group**

**14.5. Environmental hazards**

No hazards identified

**14.6. Special precautions for user**

No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories**

X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Silica, amorphous	231-545-4	-		X	X	-	X	X	X	X	X

Silica gel

## National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Silica, amorphous	nwg - nicht wassergefährdend (non-hazardous to waters)	

Component	France - INRS (Tables of occupational diseases)
Silica, amorphous	Tableaux des maladies professionnelles (TMP) - RG 25

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

## Full text of R-phrases referred to under sections 2 and 3

Not applicable

## Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

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

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Existing and Evaluated Chemical Substances

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Industrial Hygiene

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japan Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

## Key literature references and sources for data

Suppliers safety data sheet,

Chemadvisor - LOLI,

Merck index,

RTECS

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

**Creation Date** 22-Feb-2010

**Revision Date** 28-Oct-2013

**Revision Summary**

**Reason for revision** (M)SDS sections updated, 8.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**