

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : SILICA SAND

1. **IDENTIFICATION OF THE SUBSTANCE / PREPARATION
AND OF THE COMPANY / UNDERTAKING**

Identification of the substance or preparation

SILICA SAND

Use of the substance / preparation

Main applications of silica sand - non-exhaustive list: glass, silicate chemistry, abrasives, foundry sand, filler for texture coatings, glues and mortars,...

Company / undertaking identification

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Gedangan, Sidoarjo

Emergency telephone

+ 62-31-8014587

2. **COMPOSITION / INFORMATION ON INGREDIENTS**

Chemical	:	SiO ₂ (ca. 99 %)
Mineralogical	:	alpha quartz

3. **HAZARD IDENTIFICATION**

Although silica sand is not hazardous considering its granulometry, any respirable crystalline silica generated by processing silica sand may cause health effects.

Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Exposure to dust should be monitored and managed.

4. **FIRST AID MEASURES**

No actions to be avoided, nor special instructions for rescuers.

Eye contact

wash with copious quantities of water

Ingestion

non-toxic

Inhalation

No special first aid measures, breathe fresh air and consult a physician.

Skin contact

No special first aid measure necessary.

5. **FIRE-FIGHTING MEASURES**

Does not burn. No hazardous releases in case of fire.

6. **ACCIDENTAL RELEASE MEASURES**

Personal precautions

Avoid dust formation. In case of exposure to dust over regulatory limits, wear a personal respirator in compliance with national legislation.

Environmental precautions

No special requirement

Methods for cleaning up

Avoid dry sweeping and use water spraying or ventilated vacuum cleaning system to prevent dust formation.

7. **HANDLING AND STORAGE**

Handling

Avoid dust formation.

Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Your supplier can advise you on safe handling, please contact him.

Storage

Technical measures / Precautions

ensure trapping of dust produced during the loading of silos.

Keep containers closed and store the bagged products in a way preventing accidental bursting.

Specific use(s)

When mixing with other substances the above mentioned safe handling advice shall apply.

8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

Exposure limit values

Respect regulatory provisions for dust (total dust and respirable crystalline silica dust).

OEL (Occupational Exposure Limits) for respirable crystalline silica dust in the workplace atmosphere is 0.1 mg/m³ in Belgium. For other countries please consult list attached as Annex 1.

Exposure controls

Occupational exposure controls

Provide appropriate exhaust ventilation and filtering at the places where dust can be generated.

Respiratory protection

In case of exposure to dust over regulatory limits wear a personal respirator in compliance with national legislation.

Eye protection

Wear safety glasses with side-shields

Environmental exposure controls

No special requirements. There is no reported ecotoxicity for silica, a naturally occurring substance widely spread on earth.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

General information

Appearance

solid, white brown, granular

Odour

odourless

Important health, safety and environmental information

Density	:	2.65 g/cm ³
SiO ₂ %	:	99 %
Grain shape	:	sub-angular
Particle size range	:	cfr. technical data sheet
Solubility in water	:	negligible
Solubility in fluorhydric acid	:	yes

Other information

Molecular weight	:	60.1
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10. **STABILITY AND REACTIVITY**

Chemically stable, no particular incompatibility

11. **TOXICOLOGICAL INFORMATION**

Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by the deposition in the lungs of fine respirable particles of crystalline silica.

12. **ECOTOXICOLOGICAL INFORMATION**

No specific adverse effect known.

13. **DISPOSAL CONSIDERATIONS**

Waste from residues / unused products

Can be landfilled in compliance with local regulations. The material should be buried to prevent airborne respirable dust being emitted as far as respirable fraction has been created when processing sand. Where possible, recycling should be preferred to disposal.

Packaging

No specific requirements.

14. **TRANSPORT INFORMATION**

No special precaution required under the regulation on transport of dangerous goods. Avoid dust spreading.

15. **REGULATORY INFORMATION**

The substance has not been classified at the EU level, under the dangerous substances and preparations regulation. See chapter 8 for applicable OEL's in EU countries.

Annex 1

Table of Occupational Exposure Limit values

The following table shows the Occupational Exposure Limits (OEL) for quartz, cristobalite and tridymite in application in the EU and in some other countries. Please note that in the European Union, by virtue of the subsidiarity principle which prevails in health & safety matters, Member States may set up their own OEL values.

Country	Occupational Exposure Limit (OEL) Type	Adopted by	Quartz	Cristobalite	Tridymite
Australia	National Exposure Standard	Worksafe Australia, National Occupational Health & Safety Commission	0,2	0,1	
Austria	Maximalen Arbeitsplatzkonzentration	Bundesministerium für Arbeit und Soziales	0,15	0,15	0,15
Belgium		Ministère de l'Emploi et du Travail	0,1	0,05	0,05
Denmark	Threshold Limit Value	Direktoratet for Arbejdstilsynet	0,1	0,05	0,05
Finland	Occupational Exposure Standard	National Board of Labour Protection	0,2	0,1	0,1
France	Empoussiérage de référence	Ministère de l'Industrie (RGIE)	5 or 25k/Q		
	Valeur limite de Moyenne d'Exposition	Ministère du Travail	0,1	0,05	0,05
Germany	Maximalen Arbeitsplatzkonzentration	Grenzwerte in der Luft am Arbeitsplatz	0,15	0,15	0,15
Greece		Legislation for mining activities	0,1	0,05	0,05
Ireland		1997 Code of Practice for the Safety, Health & Welfare at Work	0,4	0,4	0,4
Italy	Threshold Limit Value	Associazione Italiana Degli Igienisti Industriali	0,05	0,05	0,05
Netherlands	Maximaal Aanvaarde Concentratie	Ministerie van Sociale Zaken en Werkgelegenheid	0,075	0,075	0,075
Norway	Threshold Limit Value	Direktoratet for Arbejdstilsynet	0,1	0,05	0,05
Portugal	Threshold Limit Value	Instituto Portuges da Qualidade, Hygiene & Safety at Workplace	0,1	0,05	0,05
Spain	Valores Limites	Reglamento general de Normas Basicas de Seguridad Minera	5 or 25k/Q		
		American Conference of Governmental Industrial Hygienist	0,1	0,05	0,05
Sweden		National Board of Occupational Safety and Health	0,1	0,05	0,05
Switzerland	Valeur limite de Moyenne d'Exposition		0,15	0,15	0,15
United Kingdom	Maximum Exposure Limit	Health & Safety Commission	0,3	0,3	0,3
	Occupational Exposure Standard				
USA	Permissible Exposure Limit	Occupational Safety & Health Administration	10/(%SiO ₂ +2)	PEL (Quartz)/2	PEL (Quartz)/2
	Threshold Limit Value	American Conference of Governmental Industrial Hygienists	0,05	0,05	0,05

Q : quartz percentage

Source : Adapted from IMA-Europe

Date : 09/02/02

Remark:

workplace exposure results have to be recalculated in function of the quartz, cristobalite, tridymite percentage in the respirable dust fraction.

OEL's are applicable to 100 % quartz, cristobalite or tridymite.

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