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

1.1. Identification of the substance or preparation

SILICA SAND

M31 M32 M34 MAM 1 MAM 1 S MAM 1 S T300 MAM 2

1.2. 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,…

1.3. Company / undertaking identification

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Quellinstraat 49
B-2018 Antwerpen
tel. { + 32 3 223 66 11 - fax { + 32 3 223 66 47
{ + 32 14 83 72 31 - { + 32 14 83 72 32

1.4. Emergency telephone

+ 32 14 83 72 11

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical	:	SiO_2 (ca. 99 %)
Mineralogical	:	alpha quartz
E.I.N.E.C.S.-N°	:	238-878-4
C.A.S.-N°	:	14808-60-7
EU-classification	:	no classification

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

7.1. 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.

7.2. 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.

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7.3. **Specific use(s)**

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

8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

8.1. **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.

8.2. **Exposure controls**

8.2.1. *Occupational exposure controls*

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

8.2.1.1. Respiratory protection

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

8.2.1.2. Eye protection

Wear safety glasses with side-shields

8.2.2. *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**

9.1. **General information**

Appearance
solid, white, granular

Odour
odourless

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9.2. **Important health, safety and environmental information**

Density	:	2.65 g/cm³
SiO_2 %	:	ca. 99 % (cfr. technical data sheet)
Grain shape	:	sub-angular
Particle size range	:	cfr. technical data sheet
Solubility in water	:	negligible
Solubility in fluorhydric acid	:	yes

9.3. **Other information**

Molecular weight	:	60.1

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.

The IARC (International Agency for Research on Cancer) believes that crystalline silica inhaled from occupational sources can cause lung cancer in human. It however pointed out that not all occupational conditions nor all crystalline silica types were to be incriminated.

There is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. According to current state of the art worker protection against silicosis would be consistently assured by respecting present regulatory occupational limits.

References:

"Silica and Silica-Induced Lung Diseases". V. Castranova, V. Vallyathan & W.E. Wallace (eds.), 1996 CRC Press, pp 418

"Silica, some silicates, coal dust and para-aramid fibrils". IARC monograph on the evaluation of carcinogenic risk to human, Volume 68, 1997, pp. 41-242

Pilkington, W. Maclaren, A. Searl, JMG Davis, JF. Hurley & CA. Soutar, 1996. Scientific opinion on the health effects of airborne crystalline silica. Institute of Occupational Medicine Report TM/96/08 pp. 63

CA. Soutar, A. Robertson, BG. Miller & A. Searl, 1997. Epidemiological evidence on the carcinogenicity of silica: factors in scientific judgement. Institute of Occupational Medicine Report TM/97/09. pp. 34.

12. ECOTOXICOLOGICAL INFORMATION

No specific adverse effect known.

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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.

16. OTHER INFORMATION

Third party materials
Insofar as materials not manufactured or supplied by S.C.R.-Sibelco are used in conjunction with, or instead of S.C.R.-Sibelco materials, it is the responsibility of the customer himself, to obtain from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them, no liability can be accepted in respect of the use of S.C.R.-Sibelco in conjunction with other materials.

Liability
Such information is the best of S.C.R.-Sibelco knowledge and belief accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy itself as to the suitability and completeness of such information for their own particular use.

Dry sand blasting
According to national regulations in EU member states sand containing more than 1 up to 5 % free crystalline silica cannot be used for dry sand blasting.
The European producers support this as an overall recommendation.

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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 fot Arbeidstilsynet	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	Associazone 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 Arbeidstilsynet	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.