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

1.1. Identification of the substance or preparation

SILICA SAND
Trade names

Registration number: This product is Exempted according to Article 2 § (7) of REACh.

1.2. Use of the substance / preparation

Main applications of silica sand - non-exhaustive list:
glass, silicate chemistry, abrasives, foundry sand, filler for textured coatings, glues and mortars, filtration, sports and leisure, specialist construction…

1.3. Company / undertaking identification

Bathgate Silica Sand Limited
Arclid Quarry, Congleton Road, Sandbach, Cheshire, CW11 4SN
Tel: 01270 762002 / 768018
Fax: 01270 759449

1.4. Emergency telephone

Emergency phone number 01270 762002 / 768018. This number is not available outside office hours.

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
IUPAC Name	:	silicon dioxide
REACh Reg. No	:	Exempted

3. HAZARD IDENTIFICATION

Quartz sand does not meet the criteria for classification as dangerous as defined in Directive 67/548/EEC and in the Regulation EC 1272/2008 (Classification, Labelling and Packaging of dangerous substances).

The grain size distribution of silica sand means that it is not hazardous. However, any respirable crystalline silica dust generated by processing and handling of 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. Occupational exposure to respirable crystalline silica should be monitored and controlled.

4. FIRST AID MEASURES

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

Eye contact
Wash with copious quantities of water.

Ingestion
Not hazardous. No special first aid measures necessary.

Inhalation
No special first aid measures. Remove to fresh air and consult a physician.

Skin contact
Not hazardous. No special first aid measures necessary.

5. FIRE-FIGHTING MEASURES

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

Suitable extinguishing media: Not applicable.
Extinguishing media which should not be used: Not applicable.
Special exposure hazards: Not applicable.
Special protective equipment for fire fighters: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid airborne dust generation. In case of exposure to airborne dust concentrations exceeding regulatory limits, wear a personal respirator in compliance with national legislation.

Environmental precautions
No special requirements.

Methods for cleaning up
Avoid dry sweeping and use water spraying or vacuum cleaning systems to prevent airborne dust generation.

7. HANDLING AND STORAGE

7.1. Handling

Avoid airborne dust generation. Handle bags carefully so as to prevent accidental bursting. Provide appropriate exhaust ventilation at places where airborne dust is generated. In case of insufficient ventilation, wear suitable respiratory protective equipment. If you require advice on safe handling techniques please contact your supplier, or check the Good Practice Guide referred to in Section 16.

7.2. Storage

Technical measures / Precautions
Ensure abatement of dust produced during the loading of silos.
Keep containers closed and store/handle bagged products so as to prevent accidental bursting.

7.3. Specific use(s)

For industry specific guidance, check the Good Practice Guide referred to in Section 16.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Exposure limit values

Respect workplace regulatory provisions for all types of airborne dust (total dust, respirable dust and respirable crystalline silica dust). The UK Control of Substances Hazardous to Health Regulations 2002 (as amended) require adherence to good practice principles in the control of exposure to hazardous substances.
Additionally, a WEL (Workplace Exposure Limit) for respirable crystalline silica dust of 0.1mg/m³ applies in the United Kingdom, measured as an 8 hour TWA (Time Weighted Average).
For the equivalent limits in other countries, please consult a competent occupational hygienist or the local regulatory authority.

8.2. Exposure controls

8.2.1. *Occupational exposure controls*

Provide appropriate local exhaust ventilation in places where dust is generated. Control of occupational exposure may also be achieved by enclosing plant and equipment, by isolating personnel from dusty areas and by ensuring good standards of ventilation in the workplace.

8.2.1.1. Respiratory protection

In case of exposure to airborne dust concentrations exceeding regulatory limits, wear a personal respirator that complies with the requirements of national legislation.

8.2.1.2. Eye protection

Wear safety glasses with side-shields in circumstances where there is a risk of penetrative eye injuries.

8.2.2. *Environmental exposure controls*

No special requirements.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

Appearance
Solid, granular, in various colours ranging from white to brown.

Odour
Odourless.

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 hydrofluoric acid	:	yes

9.3. Other information

Melting point	:	1610°C
Molecular weight	:	60.1

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10. STABILITY AND REACTIVITY

Chemically stable, no particular incompatibility.

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11. TOXICOLOGICAL INFORMATION

Skin irritation: Data shows no skin irritation effects.
Eye irritation: Data shows no eye irritation effects.

Chronic effects

Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. *(IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)*

In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore preventing the onset of silicosis will also reduce the cancer risk…" *(SCOEL SUM Doc 94-final, June 2003).* So there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. Worker protection against silicosis should be assured by respecting the existing regulatory occupational exposure limits and implementing additional risk management measures where required (see IMA-Europe table of OELs in the EU at http://www.ima-eu.org/en/publication.htm).

12. ECOTOXICOLOGICAL INFORMATION

No specific adverse effects known.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products
Can be landfilled in compliance with local regulations. The material should be buried to prevent dust being picked up by the wind. Where possible, recycling is preferable to disposal.

Packaging
No specific requirements. Recycling and disposal of packaging should be carried out by an authorised waste management company.

14. TRANSPORT INFORMATION

No special precautions are required under regulations relating to the transportation of dangerous goods.

15. REGULATORY INFORMATION

National Legislation
Sand blasting According to the Control of Substances Hazardous to Health Regulations 2002, sand and other substances containing free crystalline silica cannot be used as an abrasive for blasting articles in any blasting apparatus.

European Legislation
Quartz sand does not meet the criteria for classification as dangerous as defined in Directive 67/548/EEC.
Dry Blasting According to national regulations in EU member states, sand containing more than a certain amount of free crystalline silica cannot be used for dry blasting. This amount varies between 1% and 5%, according to country.

16. OTHER INFORMATION

Third party materials
Insofar as materials not manufactured or supplied by Bathgate Silica Sand Ltd are used in conjunction with, or instead of Bathgate Silica Sand Ltd 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 Bathgate Silica Sand Ltd quartz sand in conjunction with materials from another supplier.

Liability
Such information is to the best of Bathgate Silica Sand Ltd 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 himself as to the suitability and completeness of such information for his own particular use.

Dry sand blasting
According to national regulations in EU member states, sand containing more than a certain amount of free crystalline silica cannot be used for dry blasting.
This amount varies between 1% and 5%, according to country.

Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers, Bd. S. Dupuis 233 Bte 124, 1070 Brussels, Belgium. Tel: +32 (0)2 524 55 00, Fax: + 32 (0)2 524 45 75, e-mail: secretariat@ima-eu.org.

Social Dialogue on Respirable Crystalline Silica
A multi-sectoral social dialogue agreement on *Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it* was signed on 25 April 2006. This autonomous agreement, which receives the European Commission's financial support, is based on a Good Practices Guide. The requirements of the Agreement came into force on 25 October 2006. The Agreement was published in the Official Journal of the European Union (2006/C 279/02). The text of the Agreement and its annexes, including the Good Practices Guide, are available from http://www.nepsi.eu and provide useful information and guidance for the handling of products containing respirable crystalline silica.

UK Health and Safety Executive - silica (quartz)
Extract taken from http://www.hse.gov.uk/quarries/silica.htm
Quartz is found in almost all kinds of rock, sands, clays, shale and gravel. Workers exposed to fine dust containing quartz are at risk of developing a chronic and possibly severely disabling lung disease known as "silicosis". It usually takes a number of years of regular daily exposure before there is a risk of developing silicosis. Silicosis is a disease that has only been seen in workers from industries where there is a significant exposure to silica dust, such as in quarries, foundries, the potteries etc. No cases of silicosis have been documented among members of the general public in Great Britain, indicating that environmental exposures to silica dust are not sufficiently high to cause this occupational disease. In addition to silicosis, there is now evidence that heavy and prolonged workplace exposure to dust containing crystalline silica can lead to an increased risk of lung cancer. The evidence suggests that an increased risk of lung cancer is likely to occur only in those workers who have developed silicosis. It should also be noted that

excessive long term exposures to almost any dust, are likely to lead to respiratory (breathing) problems.

Detailed reviews of the scientific evidence on the health effects of crystalline silica have been published by HSE in the following Hazard Assessment Documents EH75/4 and EH75/5.
These documents are available from HSE Books.

References

Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers, Twin Gardens (6th floor), rue des Deux Eglises 26, B-1000 Brussels, Belgium.
Tel: +32 2 210 44 10, Fax: + 32 2 210 44 29.
E-mail: secretariat@imaeurope.
eu, www.ima-europe.eu