1. NAME OF THE SUBSTANCE OR MIXTURE AND THE COMPANY

PRODUCT IDENTIFIER
SUBSTANCE NAME
Quartz

Other names:
Quartz sand, crystalline quartz sand, silicon dioxide, quartzite

CHEMICAL NAME AND FORMULA
SiO2

REACH REGISTRATION NUMBER:
Exempt from mandatory registration in accordance with Appendix V.7

BRAND NAMES:

Crystal quartz sand, kiln-dried or moist direct from the stockpile, very fine quartz sand (product series BCS, BVS, GS, GLS, QS, BS, FS)

EINECS NUMBER:
238-878-4
CAS NUMBER:
14808-60-7

REACH REGISTRATION NUMBER:
Exempt from mandatory registration in accordance with Appendix V.7

RELEVANT IDENTIFIABLE USES OF THE SUBSTANCE OR MIXTURE AND USES WE ADVISE AGAINST
Main areas of application (non-exhaustive list): paints, ceramics, glass fibres, adhesives, plastics, rubber seals, speciality concrete, the manufacture of silicon, ferro-silicon, iron oxide pellets, additives in the manufacture of cement and concrete, fluxes.

DETAILS OF THE SUPPLIER PROVIDING THIS SAFETY DATA SHEET

COMPANY NAME:

Strobel Quarzsand GmbH
Freihungsand 3
92271 Freihung
GERMANY
Phone: + 49 (0)9646-9201-0
Fax: + 49 (0)9646-1257

EMAIL ADDRESS OF THE PERSON RESPONSIBLE FOR THE SAFETY DATA SHEET:
guenter.forster@strobel-quarzsand.de

COMPANY EMERGENCY PHONE NUMBER
+49 (0) 9646/920115 / + 49 (0) 961-46163

AVAILABILITY OUTSIDE OFFICE HOURS?
Yes

OTHER INFORMATION (e.g. TELEPHONE SERVICE LANGUAGE)
German/English

2. POTENTIAL HAZARDS

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

REGULATION (EC) 1272/2008:
Not classified

LABEL ELEMENTS (EC) 1272/2008:
Not classified

OTHER HAZARDS
This product is an inorganic substance and does not meet the criteria for PBT or vPvB as set out in Annex XIII of REACH.
No additional hazards identified.

3. COMPOSITION/INFORMATION ON CONSTITUENTS

MAIN CONSTITUENT:
Quartz

QUANTITY:
SiO_2 > 98%

EINECS NUMBER:
238-878-4

CAS NUMBER:
14808-60-7

IMPURITIES
None

4. FIRST AID MEASURES

DESCRIPTION OF THE FIRST AID MEASURES

AFTER CONTACT WITH THE EYES:
Rinse the eyes with open lids under running water for several minutes. Consult a doctor if irritation persists.

AFTER INHALATION:
It is recommended that the person exposed to the substance is moved from the contaminated area to the open air.

AFTER INGESTION:
No first aid measures required.

AFTER CONTACT WITH THE SKIN:
No special first aid measures required.

THE MOST IMPORTANT ACUTE AND DELAYED SYMPTOMS AND EFFECTS WHICH OCCUR
No acute and delayed symptoms and effects are observed.

INDICATIONS OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED
No special measures required.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING AGENTS

SUITABLE EXTINGUISHING AGENTS
No special extinguishing agent needed.

UNSUITABLE EXTINGUISHING AGENTS
No restriction on the extinguishing agent to be used

PARTICULAR HAZARDS EMANATING FROM THE SUBSTANCE OR MIXTURE
Non-flammable. No hazardous thermal decomposition.

ADVICE FOR FIREFIGHTERS
No specific measures for fire-fighting necessary.

6. MEASURES IN THE EVENT OF ACCIDENTAL RELEASE

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND PROCEDURES TO BE FOLLOWED IN EMERGENCIES
Avoid the generation of dust. Use personal breathing apparatus according to the relevant national regulations, see EN 143:2000.

ENVIRONMENTAL MEASURES:
No special requirements.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING
Avoid sweeping when dry. Use spray or vacuum systems (with filters to trap suspended solids) to prevent dust generation.
Wear protective clothing as required by national regulations.

REFERENCE TO OTHER SECTIONS

See Sections 8 and 13.

7. HANDLING AND STORAGE

PROTECTIVE MEASURES FOR SAFE HANDLING
PROTECTIVE MEASURES
Avoid the generation of dust. Areas in which dust is generated must be equipped with suitable ventilation equipment.
Other suitable means can include encapsulation, insulation, water suppression and breathing equipment. Wear suitable breathing equipment if ventilation is inadequate. Handle packaged products carefully to avoid damaging the packaging. You can obtain information on safe handling from the supplier of the product. You will find information on this in the guideline on best practice for the protection of employees' health by good handling and during the use of crystalline silicon dioxide and products containing silicon dioxide (see Section 16).

INFORMATION ON GENERAL INDUSTRIAL HYGIENE
Do not eat, drink or smoke when using the substance. Wash hands thoroughly after use; remove contaminated clothing and protective equipment before entering the eating area. Shower and change clothing after the end of the shift.

CONDITIONS FOR SAFE STORAGE TAKING ACCOUNT OF INCOMPATIBILITIES

TECHNICAL MEASURES / SAFETY PRECAUTIONS
Minimise the generation of dust. Avoid wind dispersal when loading. Keep containers closed and store the packaged product in such a way that the packaging is not damaged.

SPECIFIC END USES
You can obtain information on specific types of use from the supplier of the product. You will also find information on this point in the guideline on best practice for the protection of employees' health by good handling and during the use of crystalline silicon dioxide and products containing this substance (see Section 16).

8. LIMITATION AND MONITORING EXPOSURE/PERSONAL PROTECTIVE EQUIPMENT

PARAMETERS TO BE MONITORED
Comply with statutory limits for exposure to dust (e.g. for total dust, respirable dust and respirable crystalline silicon dioxide).
The latest versions of TRGS 900 and TRGS 906 must be observed.
You can obtain information on the exposure limits of other countries from experts in industrial hygiene or from the relevant regulatory authority for the country in question.

LIMITING AND MONITORING EXPOSURE:

SUITABLE TECHNICAL CONTROLS
Minimise dust generation. Use process enclosure, ventilation equipment or other technical means to ensure that dust pollution is within the exposure limits. If activities of persons generate dust, vapours or mist, ventilation must be used to maintain particle loads within the exposure limits. Use organisational means e.g. keep persons away from areas subject to dust. Remove and wash soiled clothing.

INDIVIDUAL PROTECTIVE MEASURES, FOR EXAMPLE PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION
Wear safety glasses with side shields in areas where there is a risk of eye injuries.

SKIN PROTECTION
No special requirements. See below for measures for hand protection. Persons suffering dermatitis or who have a particularly sensitive skin should take suitable precautions (e.g. wear protective clothing or use a barrier cream).

HAND PROTECTION:
Persons suffering dermatitis or who have a particularly sensitive skin should take suitable precautions (e.g. wear protective clothing or use a barrier cream). Wash the hands after the end of working hours.

RESPIRATORY PROTECTION:
Protective clothing which complies with EU or national legislation must be worn in the event of prolonged exposure to dust. The use of half masks or full face masks with class 2 or 3 particle filters (FP2 – FP3) is recommended. See EN 143:2000 Respiratory protective devices – particle filters.

LIMITING AND MONITORING ENVIRONMENTAL EXPOSURE:
Avoid wind dispersal.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES
APPEARANCE:
Solid
GRAIN SHAPE:
Granular, with rounded edges
COLOUR:
Grey to yellowish
ODOUR:
Odourless
ODOUR THRESHOLD
Not relevant
PH VALUE
pH value (400 g/l water at 20°C)
Approx. 7
MELTING POINT/FREEZING POINT
> 1610°C
INITIAL BOILING POINT AND BOILING RANGE
Between 2230 and 2590 °C
FLASH POINT
Not relevant (a solid with a melting point > 1610 °C)
EVAPORATION RATE
Not relevant (a solid with a melting point > 1610 °C)
FLAMMABILITY (SOLID, GASEOUS)
Non-flammable (not combustible)
EXPLOSIVE LIMITS
Not explosive (contains no potentially explosive chemical groups)
VAPOUR PRESSURE
Not relevant (a solid with a melting point > 1610 °C)
VAPOUR DENSITY
Not relevant
RELATIVE DENSITY:
2,65 g/cm³
SOLUBILITY IN WATER
Negligible
SOLUBILITY IN HYDROFLUORIC ACID
Yes
PARTITITION COEFFICIENT: N-OCTANOL/WATER
Not relevant (inorganic substance)
SPONTANEOUS IGNITION TEMPERATURE
No self-heating under 400 °C (a solid with a melting point > 1610 °C)
DECOMPOSITION TEMPERATURE
Approx. 2000 °C
VISCOSITY
Not relevant (a solid with a melting point > 1610 °C)
EXPLOSIVE PROPERTIES
Not explosive (contains no potentially explosive chemical groups)
OXIDISING PROPERTIES
Not relevant (the substance cannot react exothermically with combustible material)
OTHER INFORMATION
Not relevant

10. STABILITY AND REACTIVITY

REACTIVITY
Inert, not reactive
CHEMICAL STABILITY
Chemically stable
POSSIBILITY OF HAZARDOUS REACTIONS
No hazardous reactions.
CONDITIONS TO BE AVOIDED:
Not relevant
INCOMPATIBLE MATERIALS
No particular incompatibilities.

HAZARDOUS DECOMPOSITION PRODUCTS
Not relevant

11. TOXICOLOGICAL INFORMATION

INFORMATIONON TOXICOLOGICAL EFFECTS
Acute toxicity
The acute oral/dermal LD50 value of quartz and cristobalite is greater than 2000 mg/kg.
Acute toxicity on inhalation
No particular information is available on acute toxicity for doses which permit a categorical decision on classification with regard to acute toxicity on inhalation for any form of 100% crystalline silicon dioxide. Based on an OECD compliant study of a substance containing 45% cristobalite and which allows no indication of lethality, acute toxicity on inhalation is not expected. Consequently in the interest of animal welfare there is no justification of further tests.

Burning or irritation effects on the skin
Quartz (coarse and ground sand) is not an irritant to the skin (OECD TG 404).
Serious damage and irritation to the eyes
Quartz (coarse and ground sand) is not an irritant to the eyes (OECD TG 405).
Sensitisation of the respiratory system / skin
Information on sensitisation of the skin is contained in data in the manual.
Germ cell mutagenicity
Quartz has a genotoxic and mutagenic effect, particularly as it has an inflammatory effect. Inhalable quartz was unable to cause any increase in HPRT mutations in epithelial cells in rats' lungs in vitro.
Carcinogenicity
An increased risk of lung cancer is only evident after significant occupational exposure to inhalable crystalline silicon dioxide.
The increased risk of lung cancer is limited to persons with silicosis.
Reproductive toxicity
Silicon dioxide is of fundamental importance for normal bodily functions and is ingested orally through the consumption of foodstuffs which contain natural silicon dioxide. In an early study of a generation of Wistar rats there were no indications of any detrimental effects during the long-term supply of water containing silicon dioxide.
Specific target organ toxicity
Available studies; inconclusive
Specific target organ toxicity with repeated exposure
Using the criteria set out in Regulation (EC) nr. 1272/2008 this substance is not classified as STOT RE.
Long-lasting and/or severe exposure to dust containing respirable crystalline silicon dioxide can cause silicosis. This condition is a nodular pulmonary fibrosis caused by the inhalation and deposition of mineral dust.

There is a large body of evidence that an increased risk of cancer is restricted to persons already suffering from silicosis. The protection of employees against silicosis should be ensured by compliance with the existing mandatory exposure limits in the workplace and, in so far as is necessary, by the implementation of additional risk management measures (see Section 16 below for more information).

Aspiration hazard
No obvious aspiration hazard

12. ECOLOGICAL INFORMATION

TOXICITY
Not relevant
PERSISTENCE AND DEGRADABILITY
Not relevant
BIOACCUMULATIVE POTENTIAL
Not relevant
MOBILITY IN SOIL
Negligible
RESULTS OF PBT AND VPVB ASSESSMENT
Not relevant
OTHER ADVERSE EFFECTS
No specific adverse effects known.

13. INFORMATION ON DISPOSAL

WASTE TREATMENT PROCESSES
RESIDUES/RESIDUAL QUANITITIES
Against the background of existing opportunities, recycling must always be preferred to disposal. Disposal must conform to local regulations.
PACKAGING MATERIAL
Avoid dust formation from residues in packaging. Provide suitable means for the protection of the health of employees.
Store contaminated packaging materials in closed containers.
Recycling and disposal of packaging materials must comply with the applicable local regulations.

Do not reuse packaging materials. Packaging materials should be recycled and disposed of by a certified disposal company.

14. TRANSPORT INFORMATION

UN NUMBER
Not relevant
PROPER UN SHIPPING NAME
Not relevant
TRANSPORT HAZARD CLASSES
ADR: not classified
IMDG: not classified
ICAO/IATA: not classified
RID: not classified
PACKAGING GROUP
Not relevant
ENVIRONMENTAL HAZARDS
Not relevant
SPECIAL PRECAUTIONS FOR THE USER
No particular safety precautions.
TRANSPORT IN BULK ACCORDING TO ANNEX II OF THE MARPOL AGREEMENT 73/78 AND THE IBC CODE
Not relevant

15. LEGAL REQUIREMENTS

LEGAL HEALTH, SAFETY AND ENVIRONMENT REQUIREMENTS/LEGAL REQUIREMENTS SPECIFIC TO THE SUBSTANCE OR MIXTURE
NATIONAL LEGISLATION/REQUIREMENTS
WATER HAZARD CLASS:
NWG
INTERNATIONAL LEGISLATION/REQUIREMENTS

CHEMICAL SAFETY ASSESSMENT
Exempted from mandatory registration in accordance with Annex V.7 of the REACH Regulations. For Germany: the most recent versions of TRGS 900 and TRGS 906 must be observed.

You can obtain information on the exposure limits of other countries from experts in industrial hygiene or the relevant regulatory authority for the country in question.

16. OTHER INFORMATION

THIRD PARTY MATERIALS
If materials not manufactured or supplied by Strobel Quarzsand GmbH are used in conjunction with or instead of Strobel Quarzsand GmbH materials, it is the responsibility of the customer himself to obtain from the manufacturer or supplier of the relevant materials all necessary information on these or other material, for example on technical data and other product properties. No liability can be accepted if Strobel Quarzsand GmbH products are used in conjunction with the products of other manufacturers.
LIABILITY:
At the time of its compilation this information was correct and reliable according to the state of knowledge of Strobel Quarzsand GmbH. However, no responsibility, guarantee or warranty is accepted for the accuracy, reliability or completeness of the information provided here. It is the responsibility of the user to satisfy himself of the suitability and completeness of the information for his particular application.
TRAINING
Employees must be informed of the silicon dioxide content of the product and trained in the proper handling of this product to the extent required by law.

Long-term and/or severe exposure to respirable dust can cause damage to the mucous membranes and airways as well as the lungs; this damage manifests itself in breathlessness and reduced lung function. The inhalation of dust leads to irritation of the nose, throat and airways.

The information is based on our latest knowledge but does not constitute any guarantee of specific product attributes and does not represent the basis for a contractual relationship valid in law.
Revision
Most of the 16 Sections were updated and formatted in accordance with the revised ECHA guidelines (version 3 dated August 2015) for the preparation of safety datasheets. This safety data sheet was therefore redrafted and replaces the previous safety data sheet which was submitted (version DE 3).
Abbreviations
LD50: average lethal dose
PBT: persistent bioaccumulative toxic
STOT: specific target organ toxicity

vPvB: very persistent and very bioaccumulative
OEL: occupational exposure limit
SDS: safety data sheet
Relevant H statements
Not applicable
Other relevant information
In 1997 the International Agency for Research on Cancer (the IARC) came to the conclusion that exposure of persons in the workplace to crystalline silicon dioxide can cause lung cancer. However, the IARC qualified this statement by saying that this did not apply either for all forms of exposure or all types of crystalline silicon dioxide. (IARC monographs on the evaluation of cancer risks for persons caused by chemicals, silicon dioxide, dusts containing silicon dioxide and organic fibres, 1997, volume 68, IARC, Lyon, France.)
In 2009 the IARC confirmed its classification of crystalline silicon dioxide dust in the form of quartz and cristobalite in its series 100 monographs *(IAR monographs, volume 100C, 2012).*
In June 2003 the EU Scientific Committee on Occupational Exposure Limits came to the conclusion that the most important effect of the inhalation of respirable crystalline silicon dioxide by people is silicosis. "There is ample information to conclude that there is an increased relative risk of lung cancer in people suffering from silicosis. Persons employed in quarries or in the ceramics industry who are exposed to silicon dioxide but who do not suffer from silicosis are obviously not affected by this increased risk of lung cancer. It can therefore be assumed that the avoidance of silicosis also reduces the risk of cancer..." (SCOEL SUM Doc 1994-final, June 2003).

On 25th April 2006 a multi-industry agreement was signed forming the "Agreement on Workers' Health Protection Through the Good Handling and Use of Crystalline Silica and Products Containing Crystalline Silica". This autonomous agreement which was financially supported by the European Commission is based on a guide-line on best practices. The provisions set out in the agreement came into force on 25th October 2006. The agreement was published in the Official Gazette of the European Union (2006/C 279/02). The text of the agreement, its annexes and the guide-line on best practices can be seen at http://www.nepsi.eu and provides useful Information and instructions for the handling of products containing respirable crystalline silicon dioxide. References can be obtained from EUROSIL (the European Association of industrial Silica Producers).

This safety data sheet is based on the legal requirements of the REACH Regulation (EC number 1907/2006), Article 31 and Annex II) as amended. Its content acts as a guideline for the proper and careful handling of the substance. The recipients of this safety data sheet must ensure that the information it contains is properly read and understood by every person who might use, handle or dispose of this product or who can come into contact with the product in any way. The information and instructions contained in this safety data sheet are based on the current state of scientific and technical knowledge at the indicated date of its compilation. It must not be construed as a guarantee of technical capability or suitability for particular applications and constitutes no basis for a contractual relationship valid in law. This version of the safety data sheet replaces all earlier versions.

END OF THE SAFETY DATA SHEET