

Safety Data Sheet

in compliance with Regulation (EC) 1907/2006 and Regulation (EC) 453/2010

Revision date: 2010-10-08

Version: 14

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

Name: CRISTOBALITE FLOUR
 REACh Registration №: Exempted in accordance with Annex V.7
 Synonyms: Silica flour ; crystalline silica flour; silicon dioxide

Trade names: **SIBELITE® M002 / M006 / M0010 / M0010S / M3000 / M3500**

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

Main applications (non exhaustive list):
 Filler in coatings, paints and polymers; silicone, sealants and adhesives; plastic film, enamels and ceramics; investment casting powder, additional animal feed materials intended for the production of premixes, etc

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

Company name: SIBELCO BENELUX
 Address: De Zate 1, BE-2480 Dessel
 Phone №: + 32 14 83 72 11
 Fax №: + 32 14 83 72 12
 E-mail of responsible person for SDS: sales@sibelco.be

1.4. Emergency telephone number:

Emergency telephone number: + 32 14 83 72 11
 Available outside office hours ? No

2. HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture:**

This product contains respirable crystalline silica (quartz - cristobalite) as an impurity and therefore is classified as STOT RE2 according to criteria defined in the Regulation EC 1272/2008 and does not meet the criteria for classification as harmful according to Directive 67/548/EEC.

Depending on the type of handling and use (e.g. grinding, drying), airborne respirable crystalline silica may be generated. 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 dust should be monitored and controlled.

This product should be handled with care to avoid dust generation.

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Regulation EC 1272/2008:


 WARNING
 STOT RE2

H373: May cause damage to lungs through prolonged or repeated exposure by inhalation.

Classification EU (67/548/EEC) : No classification

This product contains respirable cristobalite between 1 and 10%.

2.2. Label elements:

| | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal Word: | WARNING |
| Hazard statement: | H373: May cause damage to lung through prolonged or repeated exposure by inhalation. |
| Precautionary statement(s): | P260: Do not breathe dust. P285: In case of inadequate ventilation wear respiratory protection. P501: Dispose of contents/containers in accordance with local regulation. |

2.3. Other hazards

This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

3. COMPOSITION / INFORMATION ON INGREDIENTS**3.1. Main constituent : Cristobalite**

| | |
|---------|--------------|
| Amount: | approx. 99 % |
| EINECS: | 238-455-4 |
| CAS: | 14464-46-1 |

| | |
|--------------------------|----------------------------------------------------------------------------------------------------|
| 3.2. Impurities : | This product contains between 1 and 10 % of respirable cristobalite and is classified as STOT RE2. |
|--------------------------|----------------------------------------------------------------------------------------------------|

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

Eye contact: Rinse with copious quantities of water and seek medical attention if irritation persists.

Inhalation: Movement of the exposed individual from the area to fresh air is recommended.

Ingestion: No first-aid measures required.

Skin contact: No special first aid measures necessary.

4.2. Most important symptoms and effects both acute and delayed

No acute and delayed symptoms and effects are observed.

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

No specific actions are required.

5. FIRE-FIGHTING MEASURES**5.1. Extinguishing media**

No specific extinguishing media is needed.

5.2. Special hazards arising from the substance or mixture

Non combustible. No hazardous thermal decomposition.

5.3. Advice for firefighters

No specific fire-fighting protection is required.

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

Avoid airborne dust generation, wear personal protective equipment in compliance with national legislation.

6.2. Environmental precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

Avoid dry sweeping and use water spraying or vacuum cleaning systems to prevent airborne dust generation. Wear personal protective equipment in compliance with national legislation.

6.4. Reference for other sections

See sections 8 and 13.

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7. HANDLING AND STORAGE

7.1. Precautions for safe handling

- 7.1.1. Avoid airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. In case of insufficient ventilation, wear suitable respiratory protective equipment. Handle packaged products carefully to prevent accidental bursting.

If you require advice on safe handling techniques, please contact your supplier or check the Good Practice Guide referred to in section 16.

- 7.1.2. Do not to eat, drink and smoke in work areas; wash hands after use; remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Precautions :

Minimise airborne dust generation and prevent wind dispersal during loading and unloading. Keep containers closed and store packaged products so as to prevent accidental bursting.

7.3. Specific end use(s)

If you require advice on specific uses, please contact your supplier or check the Good Practice Guide referred to in section 16.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust, respirable crystalline silica dust).

The OEL (Occupational Exposure Limit) for respirable cristobalite dust is 0.05 mg/m³ in Belgium, 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. Appropriate engineering controls

Minimise airborne dust generation. Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below specified exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne particles below the exposure limit. Apply organisational measures, e.g. by isolating personnel from dusty areas. Remove and wash soiled clothing.

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8.2.2. Individual protection measures, such as personal protective equipment

- a) Eye / face protection: Wear safety glasses with side-shields in circumstances where there is a risk of penetrative eye injuries.
- b) Skin protection: No specific requirement. For hands, see below. Appropriate protection (e.g. protective clothing, barrier cream) is recommended for workers who suffer from dermatitis or sensitive skin.
- c) Hand protection: Appropriate protection (e.g. gloves, barrier cream) is recommended for workers who suffer from dermatitis or sensitive skin. Wash hands at the end of each work session.
- d) Respiratory protection: In case of prolonged exposure to airborne dust concentrations, wear a respiratory protective equipment that complies with the requirements of European or national legislation.

8.2.3. Environmental exposure controls

Avoid wind dispersal.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

- a) Appearance: Solid, white powder.
 Grain shape: Angular
- b) Odour: Odourless
- c) Odour threshold: Not relevant
- d) pH (400 g/l water at 20°C): 9
- e) Melting point: 1718 °C
- f) Relative density: 2,35 g/cm³
- g) Solubilities :
- Solubility in water: Negligible
- Solubility in hydrofluoric acid: Yes

9.2. Other information

No other information

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10. STABILITY AND REACTIVITY

- 10.1. **Reactivity**
Inert, not reactive.
- 10.2. **Chemical stability**
Chemically stable.
- 10.3. **Possibility of hazardous reactions**
No hazardous reactions.
- 10.4. **Conditions to avoid**
Not relevant
- 10.5. **Incompatible materials**
No particular incompatibility.
- 10.6. **Hazardous decomposition products**
Not relevant.

11. TOXICOLOGICAL INFORMATION

- 11.1. **Information on toxicological effects**
- | | |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a) Acute toxicity: | based on available data, the classification criteria are not met. |
| 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 sensitisation: | 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. |
| 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: | This product contains respirable cristobalite and respirable quartz as an impurity and therefore is classified as STOT RE2 according to criteria defined in the Regulation EC 1272/2008. |

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.)

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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 section 16 below).

Health & Safety Executive (specific for UK):

Detailed reviews of the scientific evidence on the health effects of crystalline silica have been published by HSE (Health and Safety Executive, UK) in the Hazard Assessment Documents EH75/4 (2002) and EH75/5 (2003). The HSE points out on its website that "Workers exposed to fine dust containing quartz are at risk of developing a chronic and possibly severely disabling lung disease known as "silicosis". 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.

j) Aspiration hazard: based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

- 12.1. **Toxicity**
Not relevant
- 12.2. **Persistence and degradability**
Not relevant
- 12.3. **Bioaccumulative potential**
Not relevant
- 12.4. **Mobility in soil**
Negligible
- 12.5. **Results of PBT and vPvB assessment**
Not relevant
- 12.6. **Other adverse effects**
No specific adverse effects known

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13. DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products**

Where possible, recycling is preferable to disposal. Can be disposed of in compliance with local regulations.

Packaging

Dust formation from residues in packaging should be avoided and suitable worker protection assured.

Store used packaging in enclosed receptacles.

Recycling and disposal of packaging should be carried out in compliance with local regulations.

The re-use of packaging is not recommended. Recycling and disposal of packaging should be carried out by an authorised waste management company.

14. TRANSPORT INFORMATION

- | | |
|----------------------------------------------------------------------------------------|------------------------|
| 14.1. UN Number: | Not relevant |
| 14.2. UN proper shipping name: | Not relevant |
| 14.3. Transport hazard classes | |
| ADR: | Not classified |
| IMDG: | Not classified |
| ICAO/IATA: | Not classified |
| RID: | Not classified |
| 14.4. Packing Group: | Not relevant |
| 14.5. Environmental hazards: | Not relevant |
| 14.6. Special precautions for user: | No special precautions |
| 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code : | Not relevant |

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

International legislation/requirements:

Regulation 1907/2006 (REACH) : exempted, according to art. 2, paragraph 7.

European Directive on Dangerous Substances 67/548 :
this product is not classified as dangerous.

European Community Labelling : Labelling STOT RE2 required.

SARA 311/312 : Hazard Categories for SARA Section 311/312 Reporting:
Chronic HealthSARA 313 : This Product Contains the Following Chemicals Subject to
Annual Release Reporting Requirements Under the SARA
Section 313 (40 CFR 372): NoneCERCLA Section 103 Reportable Quantity :
NoneCalifornia Proposition 65 : This product contains substances regulated under
California Proposition 65.Toxic Substances Control Act : All of the components of this product are listed on the EPA
TSCA Inventory or exempt from premanufacture notification
requirements.European Inventory of Commercial Chemical Substances :
All of the components of this product are listed on the
EINECS Inventory or exempt from notification requirements.Canadian Environmental Protection Act :
All the components of this product are listed on the
Canadian Domestic Substances List or exempt from
notification requirements.

Canadian WHMIS Classification : not a controlled product

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR)
and the MSDS contains all of the information required by the CPR.Japan METI : All of the components of this product are existing chemical
substances as defined in the Chemical Substance Control Law.Australian Inventory of Chemical Substances :
All of the components of this product are listed on the AICS
inventory or exempt from notification requirements.

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Korea : All of the components of this product are listed on the ECL inventory or exempt from notification requirements.

Philippines : All of the components of this product are listed on the PICCS inventory or exempt from notification requirements.

15.2. Chemical safety assessment

Exempted from REACH Registration in accordance with Annex V.7.

16. OTHER INFORMATION**Indication of the changes made to the previous version of the SDS**

In compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010.

Third party materials

Insofar as materials not manufactured or supplied by Sibelco Benelux are used in conjunction with, or instead of Sibelco Benelux 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 Sibelco Benelux cristobalite flour in conjunction with materials from another supplier.

Liability

Such information is to the best of Sibelco Benelux knowledge and believed 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.

Training

Workers must be trained in the proper use and handling of this product as required under applicable regulations.

Social Dialogue on Respirable Crystalline Silica and Good Practices Guide

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. Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers.