	STOT RE 1 (cristobalite fine fraction ≥ 10%)	*STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)*
	Company Name	*Company Name*
	Safety Data Sheet (in compliance with Regulation (EC) 1907/2006 and Regulation (EC) 1272/2008) and Regulation (EC) 453/2010)	**Safety Data Sheet (in compliance with Regulation (EC) 1907/2006 and Regulation (EC) 1272/2008) and Regulation (EC) 453/2010)**
	CRISTOBALITE FLOUR	**CRISTOBALITE xxx**
	Version	**Version**
	xxx	xxx
	Revision date:	**Revision date:**
	June 2015	June 2015
Section 1.	**IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**	**IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**
1.1.	**Product identifier**	**Product identifier**
	Substance name	**Substance name**
	Cristobalite flour	Cristobalite xxx
	Synonyms:	Synonyms:
	silica flour, crystalline silica flour, silicon dioxide flour	silica xxx, crystalline silica xxx, silicon dioxide xxx
	Chemical name and formula	**Chemical name and formula**
	SiO2	SiO2
	Trade names:	Trade names:
	To be completed by the company tradename as on the label	To be completed by the company tradename as on the label
	EINECS:	**EINECS:**
	238-455-4	238-455-4
	CAS:	**CAS:**
	14464-46-1	14464-46-1
	REACH Registr. n°:	REACH Registr. n°:
	Exempted in accordance with Annex V.7.	Exempted in accordance with Annex V.7.
1.2.	**Relevant identified uses of the substance or mixture and uses advised against**	**Relevant identified uses of the substance or mixture and uses advised against**
	Main applications of cristobalite flour - non-exhaustive list: paint, ceramics, glass fibre, adhesives, plastics, rubber sealants, special concrete, silicone etc.	Main applications of cristobalite flour - non-exhaustive list: paint, ceramics, glass fibre, adhesives, plastics, rubber sealants, special concrete, silicone etc.
	Uses advised against	**Uses advised against**
	No use identified in Section 1.2. is advised against	No use identified in Section 1.2. is advised against
1.3.	**Details of the supplier of the safety data sheet**	**Details of the supplier of the safety data sheet**
	[entity within EU)	*[entity within EU)*
	Company name	Company name
	Address	Address
	Phone N°	Phone N°
	Fax N°	Fax N°
	E-mail of competent person responsible for SDS in the Member State or in the EU:	E-mail of competent person responsible for SDS in the Member State or in the EU:
	To be completed by the company	*To be completed by the company*
1.4.	**Emergency telephone number**	**Emergency telephone number**
	112	112
	National centre for Prevention and Treatment of Intoxications N°:	**National centre for Prevention and Treatment of Intoxications N°:**

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
	To be completed (See national emergency telephone numbers at http://echa.europa.eu/web/guest/support/helpdesks/national-helpdesks/list-of-national-helpdesks)	To be completed (See national emergency telephone numbers at http://echa.europa.eu/web/guest/support/helpdesks/national-helpdesks/list-of-national-helpdesks)
	Emergency telephone at the company	**Emergency telephone at the company**
	To be completed by the company	*To be completed by the company*
	Available outside office hours?	Available outside office hours?
	Yes / No	Yes / No
	Other information (e.g. language of the phone service)	**Other information (e.g. language of the phone service)**
	To be completed by the company	*To be completed by the company*
Section 2	**HAZARD IDENTIFICATION**	**HAZARD IDENTIFICATION**
2.1.	Classification of the substance or mixture	Classification of the substance or mixture
2.1.1.	Classification according to Regulation EC 1272/2008:	Classification according to Regulation EC 1272/2008:
	STOT RE 1 , H 372	**STOT RE 2, H 373**
	Additional information	Additional information
	For full texts of H-statements: see Section 16	For full texts of H-statements: see Section 16
2.2.	**Label elements**	**Label elements**
	Labelling according to Regulation EC 1272/2008:	Labelling according to Regulation EC 1272/2008:
	Hazard pictogram:	**Hazard pictogram:**
		
	Signal Word:	**Signal Word:**
	DANGER	WARNING
	Hazard statement:	**Hazard statement:**
	H 372, causes damage to lung through prolonged or repeated inhalation.	H 373, may cause damage to lung through prolonged or repeated inhalation.
	Precautionary statements:	**Precautionary statements:**
	P260: Do not breathe dust	P260: Do not breathe dust
	P501: Dispose of contents/containers in accordance with local regulation	P501: Dispose of contents/containers in accordance with local regulation
	In case of inadequate ventilation wear respiratory protection.	In case of inadequate ventilation wear respiratory protection.
2.3.	**Other hazards**	**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	This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH
	No other hazard identified	No other hazard identified
Section 3.	**COMPOSITION / INFORMATION ON INGREDIENTS**	**COMPOSITION / INFORMATION ON INGREDIENTS**
	Main constituent	**Main constituent**
	Cristobalite flour	Cristobalite xxx
	Amount:	Amount:
	approx. 99 %	approx. 99 %
	EINECS:	EINECS:
	238-455-4	238-455-4
	CAS:	CAS:
	14464-46-1	14464-46-1
	Impurities	**Impurities**
	Contains more than 10% of cristobalite (fine fraction) which is classified as STOT RE 1	Contains between 1% and 10% of cristobalite (fine fraction) which is classified as STOT RE 1

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
Section 4.	**FIRST AID MEASURES**	**FIRST AID MEASURES**
4.1.	**Description of first aid measures**	**Description of first aid measures**
	Following eye contact:	**Following eye contact:**
	Rinse with copious quantities of water and seek medical attention if irritation persists	Rinse with copious quantities of water and seek medical attention if irritation persists
	Following inhalation:	**Following inhalation:**
	Movement of the exposed individual from the area to fresh air is recommended.	Movement of the exposed individual from the area to fresh air is recommended.
4.2.	**Most important symptoms and effects both acute and delayed**	**Most important symptoms and effects both acute and delayed**
	No acute and delayed symptoms and effects are observed	No acute and delayed symptoms and effects are observed
4.3.	**Indication of any immediate medical attention and special treatment needed**	**Indication of any immediate medical attention and special treatment needed**
	No specific actions are required	No specific actions are required
Section 5.	**FIRE-FIGHTING MEASURES**	**FIRE-FIGHTING MEASURES**
5.1.	**Extinguishing media**	**Extinguishing media**
5.1.1.	Suitable extinguishing media	Suitable extinguishing media
	No specific extinguishing media is needed	No specific extinguishing media is needed
5.1.2.	Unsuitable extinguishing media	Unsuitable extinguishing media
	No restriction on the extinguishing media to be used	No restriction on the extinguishing media to be used
5.2.	**Special hazards arising from the substance or mixture**	**Special hazards arising from the substance or mixture**
	Non combustible. No hazardous thermal decomposition.	Non combustible. No hazardous thermal decomposition.
5.3.	**Advice for firefighters**	**Advice for firefighters**
	No specific fire-fighting protection is required.	No specific fire-fighting protection is required.
Section 6.	**ACCIDENTAL RELEASE MEASURES**	**ACCIDENTAL RELEASE MEASURES**
6.1.	**Personal precautions, protective equipment and emergency procedures**	**Personal precautions, protective equipment and emergency procedures**
	Avoid airborne dust generation, wear respiratory personal protective equipment in compliance with national legislation, see EN 143: 2000.	Avoid airborne dust generation, wear respiratory personal protective equipment in compliance with national legislation, see EN 143: 2000.
6.2.	**Environmental precautions**	**Environmental precautions**
	No special requirements.	No special requirements.
6.3.	**Methods and material for containment and cleaning up**	**Methods and material for containment and cleaning up**
	Avoid dry sweeping and use water spraying or vacuum cleaning systems (with high-efficiency particulate air filter) to prevent airborne dust generation. Wear personal protective equipment in compliance with national legislation.	Avoid dry sweeping and use water spraying or vacuum cleaning systems (with high-efficiency particulate air filter) to prevent airborne dust generation. Wear personal protective equipment in compliance with national legislation.
6.4.	**Reference to other sections**	**Reference to other sections**
	See sections 8 and 13	See sections 8 and 13
Section 7.	**HANDLING AND STORAGE**	**HANDLING AND STORAGE**
7.1.	**Precautions for safe handling**	**Precautions for safe handling**
7.1.1.	Protective measures	Protective measures

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
	Avoid airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. Other suitable controls may include enclosure, isolation, water suppression, 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.	Avoid airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. Other suitable controls may include enclosure, isolation, water suppression, 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.	Advice on general occupational hygiene	Advice on general occupational hygiene
	Do not to eat, drink and smoke in work areas; wash hands after use; remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift.	Do not to eat, drink and smoke in work areas; wash hands after use; remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift.
7.2.	**Conditions for safe storage, including any incompatibilities**	**Conditions for safe storage, including any incompatibilities**
	Technical measures / Precautions	**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.	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)**	**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.	If you require advice on specific uses, please contact your supplier or check the Good Practice Guide referred to in section 16.
Section 8.	**EXPOSURE CONTROLS / PERSONAL PROTECTION**	**EXPOSURE CONTROLS / PERSONAL PROTECTION**
8.1.	**Control parameters**	**Control parameters**
	Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust, respirable crystalline silica dust).	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 crystalline silica dust is xxx mg/m³ in *country*, 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.	The OEL (Occupational Exposure Limit) for respirable crystalline silica dust is xxx mg/m³ in *country*, 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.
	A European Binding OEL (Occupational Exposure Limit) for respirable crystalline silica dust is set at 0.1 mg/m³ in the Directive (EU) 2017/2398, measured as an 8-hour TWA (Time Weighted Average).	A European Binding OEL (Occupational Exposure Limit) for respirable crystalline silica dust is set at 0.1 mg/m³ in the Directive (EU) 2017/2398, measured as an 8-hour TWA (Time Weighted Average).
8.2.	**Exposure controls**	**Exposure controls**
8.2.1.	***Appropriate engineering controls:***	***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.	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.
8.2.2.	***Individual protection measures, such as personal protective equipment:***	***Individual protection measures, such as personal protective equipment:***
8.2.2.1.	**Eye protection**	**Eye protection**
	Wear safety glasses with side-shields in circumstances where there is a risk of penetrative eye injuries.	Wear safety glasses with side-shields in circumstances where there is a risk of penetrative eye injuries.
8.2.2.2.	**Skin protection**	**Skin protection**
	No specific requirement. For hands, see below.	No specific requirement. For hands, see below.
	Hand protection	**Hand protection**

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
	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.	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.
8.2.2.3.	**Respiratory protection**	**Respiratory protection**
	In case of prolonged exposure to airborne dust concentrations, wear a respiratory protective equipment that complies with the requirements of European and national legislation.	In case of prolonged exposure to airborne dust concentrations, wear a respiratory protective equipment that complies with the requirements of European and national legislation.
	The use of half or full face masks with filters against particles of category 2 or 3 (FP2 - FP3) is recommended. See EN 143: 2000 - Respiratory protective devices. Particle filters.	The use of half or full face masks with filters against particles of category 2 or 3 (FP2 - FP3) is recommended. See EN 143: 2000 - Respiratory protective devices. Particle filters.
8.2.3.	***Environmental exposure controls***	***Environmental exposure controls***
	Avoid wind dispersal.	Avoid wind dispersal.
Section 9.	**PHYSICAL AND CHEMICAL PROPERTIES**	**PHYSICAL AND CHEMICAL PROPERTIES**
9.1.	**Information on basic physical and chemical properties**	**Information on basic physical and chemical properties**
	Appearance	*Appearance*
	solid, white powder	solid, white xxx
	Odour	*Odour*
	odourless	odourless
	Odour threshold	*Odour threshold*
	not relevant	not relevant
	pH (400 g/l water at 20°C)	*pH (400 g/l water at 20°C)*
	9	9
	Melting point	*Melting point*
	1718 °C	1718 °C
	Initial boiling point and boiling range:	***Initial boiling point and boiling range:***
	between 2230°C and 2590°C	between 2230°C and 2590°C
	Flash point:	***Flash point:***
	Not applicable (solid with a melting point >1610°C)	Not applicable (solid with a melting point >1610°C)
	Evaporation rate:	***Evaporation rate:***
	Not applicable (solid with a melting point >1610°C)	Not applicable (solid with a melting point >1610°C)
	Flammability:	***Flammability:***
	Non flammable (not combustible)	Non flammable (not combustible)
	Explosive limits:	***Explosive limits:***
	Non explosive (absence of chemical groups associated with explosive properties)	Non explosive (absence of chemical groups associated with explosive properties)
	Vapour pressure:	***Vapour pressure:***
	Not applicable (solid with a melting point >1610°C)	Not applicable (solid with a melting point >1610°C)
	Vapour density:	***Vapour density:***
	Not applicable	Not applicable
	Density	*Density*
	2.35 g/cm³	2.35 g/cm³
	Grain shape	*Grain shape*
	angular	angular
	Solubility in water	*Solubility in water*
	negligible	negligible
	Solubility in hydrofluoric acid	*Solubility in hydrofluoric acid*
	yes	yes
	Partition coefficient: n-octanol/water:	***Partition coefficient: n-octanol/water:***

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
	Not applicable (inorganic substance)	Not applicable (inorganic substance)
	Auto-ignition temperature:	***Auto-ignition temperature:***
	No self-heating below 400°C (solid with melting point >1610°C)	No self-heating below 400°C (solid with melting point >1610°C)
	Decomposition temperature:	***Decomposition temperature:***
	ca. 2000°C	ca. 2000°C
	Viscosity:	***Viscosity:***
	Not applicable (solid with a melting point >1610°C)	Not applicable (solid with a melting point >1610°C)
	Explosive properties:	***Explosive properties:***
	Non explosive (absence of chemical groups associated with explosive properties)	Non explosive (absence of chemical groups associated with explosive properties)
	Oxidising properties:	***Oxidising properties:***
	Not applicable (substance is incapable of reacting exothermically with a combustible material)	Not applicable (substance is incapable of reacting exothermically with a combustible material)
9.2.	**Other information**	**Other information**
	No other information	No other information
Section 10.	**STABILITY AND REACTIVITY**	**STABILITY AND REACTIVITY**
10.1.	**Reactivity**	**Reactivity**
	Inert, not reactive	Inert, not reactive
10.2.	**Chemical stability**	**Chemical stability**
	Chemically stable	Chemically stable
10.3.	**Possibility of hazardous reactions**	**Possibility of hazardous reactions**
	No hazardous reactions	No hazardous reactions
10.4.	**Conditions to avoid**	**Conditions to avoid**
	not relevant	not relevant
10.5.	**Incompatible materials**	**Incompatible materials**
	no particular incompatibility	no particular incompatibility
10.6.	**Hazardous decomposition products**	**Hazardous decomposition products**
	not relevant	not relevant
Section 11.	**TOXICOLOGICAL INFORMATION**	**TOXICOLOGICAL INFORMATION**
11.1.	**Information on toxicological effects**	**Information on toxicological effects**
	Information on toxicological effects	**Information on toxicological effects**
	(a) Acute toxicity;	*(a) Acute toxicity;*
	The acute oral/dermal LD50 of quartz and cristobalite is greater than 2000 mg/kg.	The acute oral/dermal LD50 of quartz and cristobalite is greater than 2000 mg/kg.
	Acute toxicity inhalation:	Acute toxicity inhalation:
	There is no specific acute toxicity data at doses that enable a categorical decision on the acute inhalation toxicity classification for any form of crystalline silica at 100%. Acute inhalation toxicity is not expected based on read across to an OECD compliant study, with a substance that contains 45% cristobalite and gives no indication of lethality. Hence further testing is not warranted in the interests of animal welfare.	There is no specific acute toxicity data at doses that enable a categorical decision on the acute inhalation toxicity classification for any form of crystalline silica at 100%. Acute inhalation toxicity is not expected based on read across to an OECD compliant study, with a substance that contains 45% cristobalite and gives no indication of lethality. Hence further testing is not warranted in the interests of animal welfare.
	(b) skin corrosion/irritation;	*(b) skin corrosion/irritation;*
	Cristobalite (coarse sand and milled) is not irritating to skin (OECD TG 404).	Cristobalite (coarse sand and milled) is not irritating to skin (OECD TG 404).
	(c) serious eye damage/irritation;	*(c) serious eye damage/irritation;*
	Cristobalite (coarse sand and milled) is not irritating to eye (OECD TG 405) .	Cristobalite (coarse sand and milled) is not irritating to eye (OECD TG 405) .

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
	(d) respiratory or skin sensitisation;	*(d) respiratory or skin sensitisation;*
	No evidence of skin sensitisation in handbook data.	No evidence of skin sensitisation in handbook data.
	(e) germ cell mutagenicity;	*(e) germ cell mutagenicity;*
	Cristobalite has a genotoxic and mutagenic effect mainly through its inflammatory effects. Respirable cristobalite was unable to cause increased HPRT mutations in rat lung epithelial cells in vitro.	Cristobalite has a genotoxic and mutagenic effect mainly through its inflammatory effects. Respirable cristobalite was unable to cause increased HPRT mutations in rat lung epithelial cells in vitro.
	(f) carcinogenicity;	*(f) carcinogenicity;*
	Lung cancer excess risk is demonstrated only under high occupational exposures to Respirable Crystalline Silica. The lung cancer excess risk is restricted to subjects who contracted silicosis.	Lung cancer excess risk is demonstrated only under high occupational exposures to Respirable Crystalline Silica. The lung cancer excess risk is restricted to subjects who contracted silicosis.
	(g) reproductive toxicity;	*(g) reproductive toxicity;*
	Silica is essential for normal body function and is ingested orally via the consumption of foods containing silica naturally. An early one-generation study on Wistar rats gave no evidence of any adverse effects arising from long-term feeding of silica-rich water.	Silica is essential for normal body function and is ingested orally via the consumption of foods containing silica naturally. An early one-generation study on Wistar rats gave no evidence of any adverse effects arising from long-term feeding of silica-rich water.
	(h) STOT-single exposure	*(h) STOT-single exposure*
	Studies available; inconclusive	Studies available; inconclusive
	(i) STOT-repeated exposure	*(i) STOT-repeated exposure*
	This product contains cristobalite (fine fraction) and is classified as STOT RE 1 according to criteria defined in the Regulation EC 1272/2008	This product contains cristobalite (fine fraction) and is classified as STOT RE 2 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.	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.
	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 for more information)	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 for more information).
	(j) aspiration hazard.	*(j) aspiration hazard.*
	No aspiration hazard envisaged	No aspiration hazard envisaged
Section 12.	**ECOLOGICAL INFORMATION**	**ECOLOGICAL INFORMATION**
12.1.	**Toxicity**	**Toxicity**
	not relevant	not relevant
12.2.	**Persistence and degradability**	**Persistence and degradability**
	not relevant	not relevant
12.3.	**Bioaccumulative potential**	**Bioaccumulative potential**
	not relevant (Some organisms accumulate Si(OH)4)	not relevant (Some organisms accumulate Si(OH)4)
12.4.	**Mobility in soil**	**Mobility in soil**
	negligible	negligible
12.5.	**Results of PBT and vPvB assessment**	**Results of PBT and vPvB assessment**
	not relevant	not relevant
12.6.	**Other adverse effects**	**Other adverse effects**
	No specific adverse effects known.	No specific adverse effects known.
Section 13.	**DISPOSAL CONSIDERATIONS**	**DISPOSAL CONSIDERATIONS**
13.1.	**Waste treatment methods**	**Waste treatment methods**
	Waste from residues / unused products	**Waste from residues / unused products**
	Where possible, recycling is preferable to disposal. Can be disposed of in compliance with local regulations.	Where possible, recycling is preferable to disposal. Can be disposed of in compliance with local regulations.

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	*STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)*
	Packaging	**Packaging**
	Dust formation from residues in packaging should be avoided and suitable worker protection assured. Store used packaging in enclosed receptacles.	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.	Recycling and disposal of packaging should be carried out in compliance with local regulations.
Section 14.	**TRANSPORT INFORMATION**	**TRANSPORT INFORMATION**
	14.1. UN Number	**14.1. UN Number**
	not relevant	not relevant
	14.2. UN proper shipping name	**14.2. UN proper shipping name**
	not relevant	not relevant
	14.3. Transport hazard classes	**14.3. Transport hazard classes**
	ADR: Not classified	ADR: Not classified
	IMDG: Not classified	IMDG: Not classified
	ICAO/IATA: Not classified	ICAO/IATA: Not classified
	RID: Not classified	RID: Not classified
	14.4. Packing group	**14.4. Packing group**
	not applicable	not applicable
	14.5. Environmental hazards	**14.5. Environmental hazards**
	not relevant	not relevant
	14.6. Special precautions for user	**14.6. Special precautions for user**
	no special precautions	no special precautions
	14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
	not relevant	not relevant
Section 15.	**REGULATORY INFORMATION**	**REGULATORY INFORMATION**
15.1.	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	**Safety, health and environmental regulations/legislation specific for the substance or mixture**
	National legislation/requirements:	**National legislation/requirements:**
	To be completed by the company.	To be completed by the company.
	Water Hazard Classification (Germany)	Water Hazard Classification (Germany)
	NWG	NWG
	International legislation/requirements:	**International legislation/requirements:**
	To be completed by the company.	To be completed by the company.
15.2.	**Chemical safety assessment**	**Chemical safety assessment**
	Exempted from REACH Registration in accordance with Annex V.7. of Regulation (EC) 1907/2006.	Exempted from REACH Registration in accordance with Annex V.7. of Regulation (EC) 1907/2006.
16.	**OTHER INFORMATION**	**OTHER INFORMATION**
	Data are based on our latest knowledge but do not constitute a guarantee for any specific product features and do not establish a legally valid contractual relationship.	Data are based on our latest knowledge but do not constitute a guarantee for any specific product features and do not establish a legally valid contractual relationship.
	Revision	**Revision**
	Most of the 16 Sections have been updated and formatted according to the revised ECHA Guidance on the compilation of safety data sheets (version 3.0. of August 2015). Therefore, this SDS has been completely redrafted and replaced the former SDS (version xxx) supplied.	Most of the 16 Sections have been updated and formatted according to the revised ECHA Guidance on the compilation of safety data sheets (version 3.0. of August 2015). Therefore, this SDS has been completely redrafted and replaced the former SDS (version xxx) supplied.

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
	Abbreviations	**Abbreviations**
	LD50: Medial lethal dose	LD50: Medial lethal dose
	PBT: Persistent bioaccumulative toxic	PBT: Persistent bioaccumulative toxic
	STOT: Specific Target Organ Toxicity	STOT: Specific Target Organ Toxicity
	vPvB: Very persistent very bioaccumulative	vPvB: Very persistent very bioaccumulative
	Relevant H-statements	**Relevant H-statements**
	H 372: causes damage to lung through prolonged or repeated inhalation.	H 373, may cause damage to lung through prolonged or repeated exposure by inhalation.
	Other relevant information	**Other relevant information**
	In 1997, **IARC** (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans (human carcinogen category 1). 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 1997, **IARC** (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans (human carcinogen category 1). 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 2009, in the Monographs 100 series, IARC confirmed its classification of Silica Dust, Crystalline, in the form of Quartz and Cristobalite *(IARC Monographs, Volume 100C, 2012).*	In 2009, in the Monographs 100 series, IARC confirmed its classification of Silica Dust, Crystalline, in the form of Quartz and Cristobalite *(IARC Monographs, Volume 100C, 2012).*
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	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."*	***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."

	STOT RE 1 (cristobalite fine fraction ≥ 10%)	***STOT RE 2 (1% ≤ cristobalite fine fraction < 10%)***
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	END OF THE SAFETY DATA SHEET	END OF THE SAFETY DATA SHEET

Without classification (cristobalite fine fraction < 1%)
Company Name
Safety Data Sheet (in compliance with Regulation (EC) 1907/2006 and Regulation (EC) 1272/2008) and Regulation (EC) 453/2010)
CRISTOBALITE SAND
Version
xxx
Revision date:
June 2015
IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING
Product identifier
Substance name
Cristobalite sand
Synonyms:
silica sand, crystalline silica, silicon dioxide
Chemical name and formula
SiO2
Trade names:
To be completed by the company tradename as on the label
EINECS:
238-455-4
CAS:
14464-46-1
REACH Registr. n°:
Exempted in accordance with Annex V.7.
Relevant identified uses of the substance or mixture and uses advised against
Main applications of cristobalite flour - non-exhaustive list: paint, ceramics, glass fibre, adhesives, plastics, rubber sealants, special concrete, silicone etc.
Uses advised against
No use identified in Section 1.2. is advised against
Details of the supplier of the safety data sheet
[entity within EU)
Company name
Address
Phone N°
Fax N°
E-mail of competent person responsible for SDS in the Member State or in the EU:
To be completed by the company
Emergency telephone number
112
National centre for Prevention and Treatment of Intoxications N°:

Without classification (cristobalite fine fraction < 1%)
To be completed (See national emergency telephone numbers at http://echa.europa.eu/web/guest/support/helpdesks/national-helpdesks/list-of-national-helpdesks)
Emergency telephone at the company
To be completed by the company
Available outside office hours?
Yes / No
Other information (e.g. language of the phone service)
To be completed by the company
HAZARD IDENTIFICATION
Classification of the substance or mixture
Classification according to Regulation EC 1272/2008:
No classification
Label elements
Labelling according to Regulation EC 1272/2008:
No classification
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
No other hazard identified
COMPOSITION / INFORMATION ON INGREDIENTS
Main constituent
Cristobalite sand
Amount:
approx. 99 %
EINECS:
238-455-4
CAS:
14464-46-1
Impurities
None

Without classification (cristobalite fine fraction < 1%)
FIRST AID MEASURES
Description of first aid measures
Following eye contact:
Rinse with copious quantities of water and seek medical attention if irritation persists
Following inhalation:
Movement of the exposed individual from the area to fresh air is recommended.
Most important symptoms and effects both acute and delayed
No acute and delayed symptoms and effects are observed
Indication of any immediate medical attention and special treatment needed
No specific actions are required
FIRE-FIGHTING MEASURES
Extinguishing media
Suitable extinguishing media
No specific extinguishing media is needed
Unsuitable extinguishing media
No restriction on the extinguishing media to be used
Special hazards arising from the substance or mixture
Non combustible. No hazardous thermal decomposition.
Advice for firefighters
No specific fire-fighting protection is required.
ACCIDENTAL RELEASE MEASURES
Personal precautions, protective equipment and emergency procedures
Avoid airborne dust generation, wear respiratory personal protective equipment in compliance with national legislation, see EN 143: 2000.
Environmental precautions
No special requirements.
Methods and material for containment and cleaning up
Avoid dry sweeping and use water spraying or vacuum cleaning systems (with high-efficiency particulate air filter) to prevent airborne dust generation. Wear personal protective equipment in compliance with national legislation.
Reference to other sections
See sections 8 and 13
HANDLING AND STORAGE
Precautions for safe handling
Protective measures

Without classification (cristobalite fine fraction < 1%)
Avoid airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. Other suitable controls may include enclosure, isolation, water suppression, 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.
Advice on general occupational hygiene
Do not to eat, drink and smoke in work areas; wash hands after use; remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift.
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.
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.
EXPOSURE CONTROLS / PERSONAL PROTECTION
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 crystalline silica dust is xxx mg/m³ in *country*, 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.

A European Binding OEL (Occupational Exposure Limit) for respirable crystalline silica dust is set at 0.1 mg/m³ in the Directive (EU) 2017/2398, measured as an 8-hour TWA (Time Weighted Average).

Exposure controls
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.
Individual protection measures, such as personal protective equipment:
Eye protection
Wear safety glasses with side-shields in circumstances where there is a risk of penetrative eye injuries.
Skin protection
No specific requirement. For hands, see below.
Hand protection

Without classification (cristobalite fine fraction < 1%)
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.
Respiratory protection
In case of prolonged exposure to airborne dust concentrations, wear a respiratory protective equipment that complies with the requirements of European and national legislation.
The use of half or full face masks with filters against particles of category 2 or 3 (FP2 - FP3) is recommended. See EN 143: 2000 - Respiratory protective devices. Particle filters.
Environmental exposure controls
Avoid wind dispersal.
PHYSICAL AND CHEMICAL PROPERTIES
Information on basic physical and chemical properties
Appearance
solid, granular, white
Odour
odourless
Odour threshold
not relevant
pH (400 g/l water at 20°C)
9
Melting point
1718 °C
Initial boiling point and boiling range:
between 2230°C and 2590°C
Flash point:
Not applicable (solid with a melting point >1610°C)
Evaporation rate:
Not applicable (solid with a melting point >1610°C)
Flammability:
Non flammable (not combustible)
Explosive limits:
Non explosive (absence of chemical groups associated with explosive properties)
Vapour pressure:
Not applicable (solid with a melting point >1610°C)
Vapour density:
Not applicable
Density
2.35 g/cm³
Grain shape
angular
Solubility in water
negligible
Solubility in hydrofluoric acid
yes
Partition coefficient: n-octanol/water:

Without classification (cristobalite fine fraction < 1%)
Not applicable (inorganic substance)
Auto-ignition temperature:
No self-heating below 400 °C (solid with melting point >1610 °C)
Decomposition temperature:
ca. 2000 °C
Viscosity:
Not applicable (solid with a melting point >1610 °C)
Explosive properties:
Non explosive (absence of chemical groups associated with explosive properties)
Oxidising properties:
Not applicable (substance is incapable of reacting exothermically with a combustible material)
Other information
No other information
STABILITY AND REACTIVITY
Reactivity
Inert, not reactive
Chemical stability
Chemically stable
Possibility of hazardous reactions
No hazardous reactions
Conditions to avoid
not relevant
Incompatible materials
no particular incompatibility
Hazardous decomposition products
not relevant
TOXICOLOGICAL INFORMATION
Information on toxicological effects
Information on toxicological effects
(a) Acute toxicity;
The acute oral/dermal LD50 of quartz and cristobalite is greater than 2000 mg/kg.
Acute toxicity inhalation:
There is no specific acute toxicity data at doses that enable a categorical decision on the acute inhalation toxicity classification for any form of crystalline silica at 100%. Acute inhalation toxicity is not expected based on read across to an OECD compliant study, with a substance that contains 45% cristobalite and gives no indication of lethality. Hence further testing is not warranted in the interests of animal welfare.
(b) skin corrosion/irritation;
Cristobalite (coarse sand and milled) is not irritating to skin (OECD TG 404).
(c) serious eye damage/irritation;
Cristobalite (coarse sand and milled) is not irritating to eye (OECD TG 405) .

Without classification (cristobalite fine fraction < 1%)
(d) respiratory or skin sensitisation;
No evidence of skin sensitisation in handbook data.
(e) germ cell mutagenicity;
Cristobalite has a genotoxic and mutagenic effect mainly through its inflammatory effects. Respirable cristobalite was unable to cause increased HPRT mutations in rat lung epithelial cells in vitro.
(f) carcinogenicity;
Lung cancer excess risk is demonstrated only under high occupational exposures to Respirable Crystalline Silica. The lung cancer excess risk is restricted to subjects who contracted silicosis.
(g) reproductive toxicity;
Silica is essential for normal body function and is ingested orally via the consumption of foods containing silica naturally. An early one-generation study on Wistar rats gave no evidence of any adverse effects arising from long-term feeding of silica-rich water.
(h) STOT-single exposure
Studies available; inconclusive
(i) STOT-repeated exposure
This product is not classified as STOT RE 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.
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 for more information)
(j) aspiration hazard.
No aspiration hazard envisaged
ECOLOGICAL INFORMATION
Toxicity
not relevant
Persistence and degradability
not relevant
Bioaccumulative potential
not relevant (Some organisms accumulate Si(OH)4)
Mobility in soil
negligible
Results of PBT and vPvB assessment
not relevant
Other adverse effects
No specific adverse effects known.
DISPOSAL CONSIDERATIONS
Waste treatment methods
Waste from residues / unused products
Where possible, recycling is preferable to disposal. Can be disposed of in compliance with local regulations.

Without classification (cristobalite fine fraction < 1%)
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.
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 applicable
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

REGULATORY INFORMATION
Safety, health and environmental regulations/legislation specific for the substance or mixture
National legislation/requirements:
To be completed by the company.
Water Hazard Classification (Germany)
NWG
International legislation/requirements:
To be completed by the company.
Chemical safety assessment
Exempted from REACH Registration in accordance with Annex V.7. of Regulation (EC) 1907/2006.
OTHER INFORMATION
Data are based on our latest knowledge but do not constitute a guarantee for any specific product features and do not establish a legally valid contractual relationship.
Revision
Most of the 16 Sections have been updated and formatted according to the revised ECHA Guidance on the compilation of safety data sheets (version 3.0. of August 2015). Therefore, this SDS has been completely redrafted and replaced the former SDS (version xxx) supplied.

Without classification (cristobalite fine fraction < 1%)
Abbreviations
LD50: Medial lethal dose
PBT: Persistent bioaccumulative toxic
STOT: Specific Target Organ Toxicity
vPvB: Very persistent very bioaccumulative
Relevant H-statements
Not applicable
Other relevant information
In 1997, **IARC** (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans (human carcinogen category 1). 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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END OF THE SAFETY DATA SHEET