

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|-----------------------------|-----------------------|
| Name of the substance | Silicon dioxide |
| Trade name of the substance | Blank |
| Identification number | 231-545-4 (EC number) |
| Registration number | - |
| Synonyms | None. |
| Product code | Part #: 930001 |
| Issue date | 09-February-2016 |
| Version number | 04 |
| Revision date | 22-November-2022 |
| Supersedes date | |

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

| | |
|----------------------|-------------|
| Identified uses | Sample. |
| Uses advised against | None known. |

1.3. Details of the supplier of the safety data sheet

| | |
|-----------|--|
| Supplier | Evident Europe GmbH |
| Address | Caffamacherreihe 8-10, 20355 Hamburg Germany |
| Telephone | +49 40-23773-0 |
| Fax | + |
| e-mail | evident-safety@evidentscientific.com |

1.4. Emergency telephone number

CHEMTREC
US: 1-800-424-9300, International: +1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards


| | | |
|---|---------------------------------------|--|
| Carcinogenicity (inhalation) | Category 1A | H350 - May cause cancer by inhalation. |
| Specific target organ toxicity - repeated exposure (inhalation) | Category 2 (Lung, Respiratory system) | H373 - May cause damage to organs (Lung, Respiratory system) through prolonged or repeated exposure by inhalation. |

Hazard summary

May cause damage to organs through prolonged or repeated exposure. May cause cancer. Exposure to powder or dusts may be irritating to eyes, nose and throat. Occupational exposure to the substance or mixture may cause adverse health effects. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

| | |
|-------------------|---|
| Contains: | Silicon dioxide |
| Hazard pictograms |  |

Signal word: Danger

Hazard statements

| | |
|------|---|
| H350 | May cause cancer by inhalation. |
| H373 | May cause damage to organs (Lung, Respiratory system) through prolonged or repeated exposure by inhalation. |

Precautionary statements

Prevention

| | |
|------|--|
| P201 | Obtain special instructions before use. |
| P260 | Do not breathe dust. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

Response

| | |
|-------------|--|
| P308 + P313 | IF exposed or concerned: Get medical advice/attention. |
|-------------|--|

Storage

| | |
|------|------------------|
| P405 | Store locked up. |
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Disposal

| | |
|------|---|
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |
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Supplemental label information None.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | INDEX No. | Notes |
|------------------------|-------------------------------|------------------------|------------------------|-----------|-------|
| Silicon dioxide | 100 | 7631-86-9 231-545-4 | - | - | |
| Classification: | Carc. 1A;H350, STOT RE 2;H373 | | | | |

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

| | |
|---------------------|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |

4.2. Most important symptoms and effects, both acute and delayed Dusts may irritate the respiratory tract, skin and eyes. Coughing. Discomfort in the chest. Shortness of breath.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

| | |
|---------------------------------------|---|
| Suitable extinguishing media | Use fire-extinguishing media appropriate for surrounding materials. |
| Unsuitable extinguishing media | None known. |

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

| | |
|--|---|
| Special protective equipment for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Special fire fighting procedures | Use water spray to cool unopened containers. |

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** Ensure adequate ventilation. Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust.
- For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Collect in containers and seal securely. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Should be handled in closed systems, if possible. Minimise dust generation and accumulation. Do not breathe dust. Provide appropriate exhaust ventilation at places where dust is formed. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s) Sample.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

| Material | Type | Value | Form |
|---------------------------------|------|-----------------------|-------------|
| Silicon dioxide (CAS 7631-86-9) | TWA | 0.1 mg/m ³ | Respirable. |

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

Control banding approach No data available.

8.2. Exposure controls

Appropriate engineering controls Should be handled in closed systems, if possible. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Risk of contact: Wear safety glasses with side shields (or goggles).

Skin protection

- Hand protection No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

- Other No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Respiratory protection Wear respirator with dust filter. Use respiratory equipment with particle filter, type P1.

Thermal hazards No protection is ordinarily required under normal conditions of use.

| | |
|--|--|
| Hygiene measures | Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |
| Environmental exposure controls | Environmental manager must be informed of all major releases. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

| | |
|---|---------------------|
| Physical state | Solid. |
| Form | Powder. |
| Colour | White. |
| Odour | Odourless. |
| Odour threshold | Not available. |
| pH | Not applicable. |
| Melting point/freezing point | 1710 °C (3110 °F) |
| Initial boiling point and boiling range | 2230 °C (4046 °F) |
| Flash point | Not applicable. |
| Evaporation rate | Not applicable. |
| Flammability (solid, gas) | Non flammable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not applicable. |
| Flammability limit - upper (%) | Not applicable. |
| Vapour pressure | Not applicable. |
| Vapour density | Not applicable. |
| Relative density | Not available. |
| Solubility(ies) | Insoluble in water. |
| Partition coefficient (n-octanol/water) | Not applicable. |
| Auto-ignition temperature | Not applicable. |
| Decomposition temperature | Not available. |
| Viscosity | Not applicable. |
| Explosive properties | Not explosive. |
| Oxidising properties | Not oxidising. |

9.2. Other information

| | |
|--------------------------|-------------------------------|
| Density | 2.20 - 2.60 g/cm ³ |
| Molecular formula | O ₂ Si |

SECTION 10: Stability and reactivity

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|---|---|
| 10.1. Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| 10.2. Chemical stability | Material is stable under normal conditions. |
| 10.3. Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| 10.4. Conditions to avoid | Avoid dust formation. Contact with incompatible materials. |
| 10.5. Incompatible materials | Strong oxidising agents. Hydrofluoric acid. Magnesium. |
| 10.6. Hazardous decomposition products | No hazardous decomposition products are known. |

SECTION 11: Toxicological information

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|----------------------------|--|
| General information | Occupational exposure to the substance or mixture may cause adverse effects. |
|----------------------------|--|

Information on likely routes of exposure

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|---------------------|--|
| Inhalation | Dust may irritate respiratory system. Prolonged inhalation may be harmful. |
| Skin contact | Dust or powder may irritate the skin. |
| Eye contact | Dust may irritate the eyes. |

| | |
|------------------|--|
| Ingestion | Expected to be a low ingestion hazard. |
| Symptoms | Dusts may irritate the respiratory tract, skin and eyes. Coughing. Shortness of breath. Discomfort in the chest. Prolonged exposure may cause chronic effects. |

11.1. Information on toxicological effects

| | |
|--|---|
| Acute toxicity | Not expected to be acutely toxic. |
| Skin corrosion/irritation | Based on available data, the classification criteria are not met. |
| Serious eye damage/eye irritation | Based on available data, the classification criteria are not met. |
| Respiratory sensitisation | Due to partial or complete lack of data the classification is not possible. |
| Skin sensitisation | Based on available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Carcinogenicity | May cause cancer by inhalation. |

IARC Monographs. Overall Evaluation of Carcinogenicity

Silicon dioxide (CAS 7631-86-9)

1 Carcinogenic to humans.

| | |
|---|--|
| Reproductive toxicity | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity - single exposure | Due to partial or complete lack of data the classification is not possible. |
| Specific target organ toxicity - repeated exposure | May cause damage to organs (Lung, Respiratory system) through prolonged or repeated exposure by inhalation. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |
| Mixture versus substance information | No information available. |
| Other information | Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material. |

SECTION 12: Ecological information

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|--|---|
| 12.1. Toxicity | Not expected to be harmful to aquatic organisms. |
| 12.2. Persistence and degradability | Not applicable. |
| 12.3. Bioaccumulative potential | The product is not bioaccumulating. |
| Partition coefficient n-octanol/water (log Kow) | Not available. |
| Bioconcentration factor (BCF) | Not available. |
| 12.4. Mobility in soil | No data available. |
| Mobility in general | The product is insoluble in water. |
| 12.5. Results of PBT and vPvB assessment | Not a PBT or vPvB substance or mixture. |
| 12.6. Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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|-------------------------------------|--|
| Residual waste | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |
| EU waste code | 06 01 99 The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Disposal methods/information | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Dispose of contents/container in accordance with local/regional/national/international regulations. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste. |
| Special precautions | Dispose in accordance with all applicable regulations. |

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not listed.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. Pregnant women should not work with the product, if there is the least risk of exposure.

National regulations Follow national regulation for work with chemical agents.

Not regulated.

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No Effect Level.
PNEC: Predicted No Effect Concentration.
PBT: Persistent, bioaccumulative, toxic.
vPvB: Very Persistent and very Bioaccumulative.

References

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.

Full text of any H-statements not written out in full under Sections 2 to 15

H350 May cause cancer by inhalation.
H373 May cause damage to organs through prolonged or repeated exposure by inhalation.

Training information

Follow training instructions when handling this material.

Disclaimer

(YLGHQW6FLHQW) We do not anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.