

Created on: 11.02.2022
Replaces SDS: -
Version: 1

Quartz sand, grain size 101, 102, 103, 104, 105

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

1.1 Product identifier

Trade name: **Quartz sand. Grain size 101, 102, 103, 104, 105**

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

Relevant identified uses: Quartz sand for industrial production, sports fields, artificial turf fields, mortar mixtures, incinerators, filter and well systems, interior cementing.

Uses advised against: All other uses are strongly discouraged.

1.3 Details of the supplier of the safety information sheet

Supplier

Company name:	Industriesandwerk Robert Hardt GmbH & Co. KG
Street:	Langer Kornweg 28
City:	D - 65451 Kelsterbach
Responsible department:	Business manager Mr Thomas Hardt
Email:	info@industriesandwerk.de
Phone	+49(0)6107-2020
Fax:	+49(0)6107-64354

1.4 Emergency telephone number

office phone line: 06107-2060 (7:00 am – 5:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 (GHS/CLP)

GHS – Classification

GHS classification Hazard categories

Quartz sand does not meet the criteria for classification according to Regulation (EC) No 1272/2008.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 is not required.

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2.3 Other hazards

The ingredients of this product do not meet the criteria for classification as PBT or vPvB. The product has no endocrine disrupting properties.

Quartz sand in itself is not hazardous. However, alveolar quartz dust, which can be produced during the processing of quartz sand, can have damaging impacts on health. Inhaling excessive amounts of quartz particles less than 10µm in diameter can lead to silicosis (pneumoconiosis), which manifests itself over time as coughing or breathlessness. Recent medical studies suggest that people suffering from silicosis may also have an increased risk of lung cancer. Exposure to silica dust in the workplace should therefore be measured regularly and reduced through adequate measures.

Attention! Alveolar, crystalline quartz fine dust is not visible to the naked eye.

SECTION 3: Composition/information on ingredients

3.1 Substance

Chemical name	CAS No EC No Index No REACH No	Concentration	M Factor	Classification	H-phrases
Alpha quartz, SiO ₂	14808-60-7238- 878-4	100 %			

SiO₂ content: approx. 96-98 %, depending on grain size

Further information

Caution. According to the classification provided by companies to ECHA in CLP notifications, this substance causes damage to organs and may cause cancer (especially lung cancer) through prolonged or repeated exposure.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

First-aiders: Pay attention to self-protection! No special measures or instructions for first aid personnel required; avoid further inhalation of fine quartz dust.

After inhalation

Provide fresh air. Consult a doctor if symptoms persist.

After skin contact

No special measures required. Wash off with water and mild soap.

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After eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove existing contact lenses if possible. Continue rinsing. If eye irritation persists: Seek medical advice/attention.

After ingestion

Rinse mouth with plenty of water. Drink a glass of water. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Not applicable.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment if symptoms occur.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

Quartz sand itself is not combustible. Adapt fire-fighting measures to the surroundings.

Extinguishing agents unsuitable for safety reasons

Fire extinguishing agents with strong extinguishing agent output, e.g. water in full jet.

5.2 Special hazards arising from the substance or mixture

None known.

5.3 Advice for firefighters

If necessary: full firefighting protective equipment and self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid formation of dust. In case of contact with dust above the exposure limit, wear respiratory protective equipment in accordance with national legislation. Limit access to the area to the minimum number of workers required. Ensure return to normal conditions as soon as possible.

6.2 Environmental precautions

No special requirements.

6.3 Methods and material for containment and cleaning up

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Do not clean dry. To avoid dust formation, moisten with water when cleaning or use a Hoover with a high-efficiency particle filter (HEPA). If brushes are used, moisten the area beforehand. Do not use compressed air for cleaning. Do not allow material to be blown away by the wind.

6.4 Reference to other sections

For information on safe handling see section 7.

For information on personal protection see section 8.

For information on disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Avoid dust formation. Ensure good exhaust ventilation in places where dust formation is possible. In case of contact with dust above the exposure limit, wear respiratory protective equipment in accordance with national legislation. Dust may be generated when handling the material. Work processes should be designed to limit the amount of handling. If possible, handling should be carried out under controlled conditions (e.g. using a dust extraction system). Regular cleaning minimises secondary dust dispersal.

Hygiene measures

Do not eat, drink, snort, or smoke during use. Keep the workplace clean.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and containers

Store in the original packaging in a dry environment until use. Always use closed and clearly labelled containers. When filling and emptying silos and bunkers, pay attention to dust release. Quartz sand packed in bags or big bags must be stored in such a way that damage to the containers and thus leakage of the material is avoided. Empty containers may contain residues.

Advice on combined storage

Storage class according to TRGS 510: **13**- Non-combustible solids

7.3 Specific end use(s)

Quartz sand for industrial production, sports fields, artificial turf fields, mortar mixtures, incinerators, filter and well systems, interior cementing.

SECTION 8: Exposure controls/personal protection

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8.1 Control parameters

Designation	Exposure limit mg/m³-ppm	Overshoot factor	Source
Quartz (A dust)	0.05 mg/m ³	8	TRGS 559

The currently valid national limit values for other EU countries can be obtained from IMA-Europe (Industrial Minerals Association Europe) Bd. S. Dupuis 233, B-1070 Brussels at www.ima-eu.org/en/silhsefacts.html.

8.2 Exposure controls

Technical measures

Use only under adequate ventilation. If possible, handling should be carried out under controlled conditions (e.g. using a dust extraction system).

Protective and hygiene measures

The usual precautionary measures when handling chemicals must be observed. Use is prohibited if risks to the user cannot be excluded and/or adequate instruction has not been given.

Respiratory protection

Half masks with particle filter category P2, or filtering FFP2 half masks. For dust-intensive activities where the risk assessment shows that the protective effect (maximum exposure) of P2 or FFP2 masks may be exceeded, respiratory protection of the higher category (P3 or FFP3) is required. Preferably, fan-assisted respirators (fresh air or compressed air hose respirators with bonnet or helmet; for example TH2P (maximum exposure to quartz (A-dust) 20 x 0.05 mg/m³) should be used. (Source: TRGS 559)

Hand protection

Wear suitable protective gloves.

Eye protection

Safety glasses with side shields according to EN166. Do not wear contact lenses.

Further skin protection

If necessary, wear appropriate headgear and full body protective suit. Washable clothing or disposable clothing may be used. If possible, do not take home soiled or unwashed clothing. The employer should provide two lockers for each employee. As part of good hygiene practice, ensure that work clothes are washed separately by the employer.

Environmental exposure controls

Take appropriate measures to comply with the requirements of relevant environmental legislation. For disposal, see section 13.

SECTION 9: Physical and chemical properties

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9.1 Information on basic physical and chemical properties

Appearance:	Grainy
Colour	white
Aggregate state	Solid
Particle properties:	Edge rounded grain shape
Odour:	Odourless
odour threshold:	No data available.
pH:	6.9
Melting point/freezing point:	1730 °C, tested according to SK 33
Initial boiling point and boiling range:	2230 °C
Sintering start:	1550-1600 °C
Flashpoint:	Not applicable.
Evaporation rate:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Upper/Lower flammability and explosion limits:	No data available.
Vapor pressure:	Not applicable.
Vapor density:	Not applicable.
Density:	2.2-2.4 g/cm ³
Solubility:	Soluble in hydrofluoric acid.
Solubility (in water):	Insoluble in water
Partition coefficient: n-octanol / water:	Not applicable.
Auto ignition temperature: Solid:	Not applicable.
Decomposition temperature:	No data available.
Viscosity:	Not applicable.

9.2 Other information

9.2.1. Information with regard to physical hazard classes

Explosive properties:	No data available.
Oxidizing properties:	No data available.
Self-heating properties:	No data available.
Bulk density:	1.3-1.6 g/cm ³ , depending on grain size.
Ignition temperature:	No data available.
Lower explosion limit:	No data available.
Flammable solid	No data available.

9.2.2. Other safety characteristics

Mechanical sensitivity:	No data available.
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Self-accelerating polymerisation temperature:	Not applicable.
Formation of explosible dust/air mixtures:	No data available.
Acid/alkaline reserve:	Not applicable.
Evaporation rate:	Not applicable.
Miscibility:	No data available.
Conductivity:	Not applicable.
Corrosiveness:	No data available.
Gas group:	Not applicable.
Redox potential:	No data available.
Radical formation potential:	No data available.
Photocatalytic properties:	No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Quartz sand is inert.

10.2 Chemical stability

Chemically and thermally stable

10.3 Possibility of hazardous reactions

None known.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

None known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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Toxicological testing

Acute toxicity

Based on available data, the classification criteria are not met.

Skin corrosion / irritation

Based on available data, the classification criteria are not met.

Serious eye damage / irritation

Mechanical eye irritation possible due to dust and grains.

Sensitization of respiratory tract / skin

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

According to the classification provided by companies to ECHA in CLP notifications, this substance causes damage to organs through prolonged or repeated exposure and may cause cancer if inhaled.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Specific target organ toxicity single exposure

May cause respiratory irritation.

Specific target organ toxicity repeated exposure

The following information only applies in the event that the processing of quartz sand produces fine quartz dust that is permeable to the alveoli. Prolonged and/or severe inhalation of respirable silica dust can lead to silicosis. The main symptoms of silicosis are coughing and breathlessness. People suffering from silicosis have an increased risk of lung cancer. Dust exposure should be measured and monitored.

The IARC (International Agency For Research on Cancer) believes that crystalline SiO₂ inhaled in the workplace can cause lung cancer in humans. There is some evidence suggesting that an increased risk of lung cancer is limited to people who already have silicosis. Even if the currently valid occupational exposure limits are not exceeded, a cancer risk cannot be ruled out according to the current state of scientific knowledge (cf. TRGS 559, No. 2.3).

Aspiration risk

Based on available data, the classification criteria are not met.

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

The product has no endocrine-disrupting properties.

11.2.2. Other information

No data available.

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SECTION 12: Ecological information

12.1 Toxicity

Quartz sand is harmless to the environment. Quartz is the largest component of the earth's crust.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6. Endocrine disrupting properties

The product has no endocrine-disrupting properties.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Unused, i.e. uncontaminated silica sands are environmentally friendly and can be landfilled without any problems in accordance with local regulations. Packaging (bags, shrink wrap, big bags) should be disposed of in cooperation with local disposal and recycling companies.

Waste code number: 01409.

SECTION 14: Transport information

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14.1 UN number

Not a dangerous good according to ADR regulations.

14.2 UN proper shipping name

Not applicable.

14.3 Transport hazard class(es)

Not applicable.

14.4 Packaging group

Not restricted.

14.5 Environmental hazards

None.

14.6 Special precautions for user

For information on safe handling see section 7.

For information on personal protection see section 8.

For information on disposal see section 13.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

EU regulatory information

Regulation (EC) No 1907/2006 of the European Parliament and of the Council, REACH.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council, CLP.

European Agreement concerning the International Carriage of Dangerous Goods by Road (Accord européen relatif au transport international des marchandises Dangereuses par Route), ADR.

National legislation

Ordinance on Protection against Hazardous Substances (GefStoffV).

TRGS 900 - Technical Rules for Hazardous Substances: Occupational exposure limits.

TRGS 559 - Technical Rules for Hazardous Substances: Dust Containing Quartz

TRGS 906 - Technical Rules for Hazardous Substances: List of carcinogenic activities or procedures according to § 3 para. 2 no. 3 GefStoffV".

TRGS 510 – Technical Rules for Hazardous Substances: Storage of hazardous substances in portable containers. **LGK 13 - Non-combustible solids.**

Ordinance on Installations for Handling Substances Hazardous to Water - AwSV: **nwg - not hazardous**

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to water.

Twelfth Ordinance on the Implementation of the Federal Immission Control Act (Major Accidents Ordinance - 12th BImSchV): Not applicable.

First General Administrative Regulation on the Federal Immission Control Act (Technical Instructions on Air Quality Control - TA Luft): **Section 5.2.1 - Total dust, including fine dust.**

All relevant national and local rules and regulations must be observed.

15.2 Chemical safety assessment

Exempted from the REACH registration obligation.

SECTION 16: Other information

Changes to the previous version

Version 1 – creation – 11.02.2022

References to key literature and data sources

Regulation (EC) No 1907/2006 of the European Parliament and of the Council, REACH.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council, CLP.

Ordinance on Protection against Hazardous Substances (GefStoffV).

Ordinance on Installations for Handling Substances Hazardous to Water - AwSV.

TRGS 900 - Technical Rules for Hazardous Substances: Occupational exposure limits.

TRGS 559 - Technical Rules for Hazardous Substances: Dust Containing Quartz

TRGS 906 - Technical Rules for Hazardous Substances List of carcinogenic activities or procedures according to § 3 para. 2 no. 3 GefStoffV".

TRGS 510 – Technical Rules for hazardous substances: Storage of hazardous substances in portable containers.

GESTIS - International limits for chemical substances (database).

<http://prevent.se> (database).

REACH Registration Dossiers - ECHA.

Acronyms

ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
EC	European Communities
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
IMDG	International Maritime Code for Dangerous Goods

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LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
PBT	persistent, bioaccumulative and toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
UN	United Nations
vPvB	very persistent and very bioaccumulative

Further information

The information provided in this safety data sheet is intended to describe the product with regard to the required safety precautions. They are not intended to assure any particular properties and are based on our present knowledge.

Use restriction:

In some countries, quartz sand, i.e. sand with a content of fine crystalline quartz of more than 5%, must not be used for dry sandblasting (e.g.: Germany, France, Switzerland).