

Safety data sheet according to Regulation (EC) No. 1907/2006

Trade name: Arizona-Staub ARIZ TD compliant with ISO 12103-1
Created on: 22.07.2016 Version: **1215-4** replaces: 1215-3
Revised on: 25.06.2021 Page: 1 / 7



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

1.1 Product identifier

Substance name: Sand
Trade name: Arizona-dust ARIZ-TD, compliant with ISO 12103-1

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

Relevant identified uses: Test dust
Uses advised against: -

1.3 Details of the supplier of the safety data sheet

Manufacturer/ Supplier: KSL staubtechnik gmbh
Address/ PO Box: Westendstrasse 11
Nat.-Ident./ Postcode/ city: DE - 89415 Lauingen
Telephone/ Fax/ E-mail: +49 (0) 9072 / 95 00-0 / Fax no: -50 / info@ksl-staubtechnik.de

1.4 Emergency telephone number

+49 (0) 9072/ 95 00-0 (Accessibility: Mon-Thu 8am to 4pm, Fri 8am to 12pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This product is contaminated with respirable quartz and is therefore classified as STOT RE1 according to the criteria defined in Regulation (EC) No. 1272/2008. Depending on the handling and processing of the product, airborne respirable crystalline silica may form. Prolonged and/or intensive inhalation of respirable crystalline silica may cause pulmonary disease (silicosis). The main symptoms of silicosis include cough and respiratory problems/ shortness of breath. Following exposure to respirable crystalline silica, suitable protection and monitoring measures should be taken. According to TRGS 906, activities involving respirable crystalline silica in the form of quartz and cristobalite have a carcinogenic effect on humans.

The product should be handled with great caution in order to avoid dust formation.

2.1.1 Classification according to Regulation (EC) No. 1272/2008

Hazard class: STOT RE1
Hazard category: 1
Hazard warnings: H372 Causes damage to lungs through prolonged or repeated exposure if inhaled.
This product contains more than 10% respirable quartz.

2.2 Label elements

2.2.1 Label elements according to Regulation (EC) No. 1272/2008



GHS08

Signal word: Hazard
Hazard warning: H351: Suspected of causing cancer.
H372: Causes damage to lungs through prolonged or repeated exposure if inhaled.
Safety precautions: P260: Do not breathe dust
P270: Do not eat, drink or smoke when using.
P284: In case of inadequate ventilation wear respiratory protection.
P501: Dispose of contents (residual amounts)/ containers properly according to local regulations (avoid dust formation).

2.3 Other hazards

The product is an inorganic substance that does not meet the criteria for PBT and vPvB substances according to Annex XIII of the REACH Regulation 1907/2006/EC.

SECTION 3: Composition/information on ingredients

3.1 Substances

Description of the substance: Quartz (SiO₂)
Hazardous ingredients: This product contains more than 10% respirable quartz, which is classified as STOT RE1.

Product identifier	CAS No.	EC No.	Concentration range [M.-%]	Classification according to Regulation (EC) No. 1272/2008
Naturally occurring desert sand (contains quartz)	-	-	100%	- H372 - STOT RE1 - Category 1

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3.2 Mixtures

This product is a substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

If symptoms persist, it is advised to consult a doctor. Please specify substance/product and measures taken to the doctor.

After inhalation:

Ensure supply of fresh air. Any dust in the throat and nasal passages should be cleared promptly. Consult a doctor in case of symptoms such as discomfort, cough or persistent irritation. In general, inhalation is to be avoided.

After skin contact:

Wash with water and soap.

After eye contact:

If necessary, remove contact lenses and, holding the eyelid open, rinse the eye under running water to remove all particles. If possible, use an isotonic eye rinsing solution (0.9 % NaCl). Do not rub eyes when dry, since additional cornea damage could occur due to mechanical stress.

After ingestion:

Rinse mouth with plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

Repeated inhaling of large amounts over a long period of time increases the risk of developing lung diseases (silicosis). The main symptoms of silicosis are cough and respiratory problems/ shortness of breath. It may cause irritation of the eyes (caused by foreign bodies)

4.3 Indication of any immediate medical attention and special treatment needed

There are no known special measures.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable:

Suitable extinguishing media in the work area/ environment.

Unsuitable:

None

5.2 Special hazards arising from the substance or mixture

None. Not combustible.

5.3 Advice for firefighters

None

5.4 Additional advice

No action is required because the substance is not combustible.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Avoid dust formation. Wear protective clothing as described under Section 8. Follow the instructions for safe use, as described under Section 7.

6.1.2 For emergency responders

Emergency plans are not necessary. With high dust levels, respiratory protection is however required.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and material for containment and cleaning up

6.3.1 Notes for containment

Avoid dust generation.

6.3.2 Notes for clean-up

Avoid inhalation. Avoid dry sweeping. Use tested spraying and vacuum cleaning systems. Use protective equipment.

6.3.3 Advice on inappropriate containment and cleaning methods

Blowing-off for cleaning purposes is not permitted.

6.4 Reference to other sections

See also Sections 8 and 13. Personal protective equipment is specified in section 8 of the safety data sheet.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

7.1.1 Recommendations on safe handling

Avoid dust formation and deposits. Handle packaged products carefully in order to prevent the packaging from bursting open. Areas subject to dust generation must be equipped with suitable ventilation systems. In case of inadequate dust removal in the workplace, wear suitable respiratory protection (in compliance with the EN 143 standard). Gloves compliant to the EN 374 standard are recommended.

Measures to prevent fire and explosion

No special measures required.

Measures to prevent aerosol and dust generation

Sweep only with an appropriate cleaning agent. For cleaning, use suitable methods as dry as possible - such as vacuum intake - that do not cause dust generation.

Measures to protect the environment

No special measures required.

7.1.2 Advice on general occupational hygiene

During work do not drink, eat or smoke. Wash hands after use/ contact. In dusty atmosphere, use breathing masks and safety goggles.

7.2 Conditions for safe storage, including any incompatibilities

Advice on storage conditions

Store in dry and sealed containers, possibly the original ones. Keep away from foodstuffs, drinks and tobacco.

Requirements for storage rooms and vessels

No special measures required.

Storage class

VCI: 10-13 (non-flammable solids)

7.3 Specific end use(s)

Industry and sector specific guidance

Convenient and economical application with suitable testing equipment depending on the intended purpose. For specific end uses (see Section 1.2), no additional information is available.

Further information can be found i. a. in the Agreement on Workers' Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it (see Section 16).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace-related limit values to be monitored:

Chemical identity	CAS No.	EC No.	National limit value	Exposure type	DNEL/PNEC value	Comment/Legal provision
General dust limit value	-	-	1,25 (A) mg/m ³ (respirable)	inhalative		Workplace-related limit value TRGS 900
General dust limit value	-	-	10 (E) mg/m ³ (inhalable)	inhalative		Workplace-related limit value TRGS 900
Silicon dioxide SiO ₂	14808-60-7	238-878-4	*	inhalative	not available	List of carcinogenic activities or processes TRGS 906

* In Germany, there currently exists a Limit value of 50 µg/m³ for activities or processes in which workers are exposed to respirable crystalline silica in the form of quartz.

Safety precautions, in particular the third and fourth section of the Hazardous Substances Ordinance (GefStoffV), must be observed.

The Occupational Exposure Limits (OEL) for respirable crystalline silica for EU countries, Norway and Switzerland can be found at: <http://www.nepsi.eu/>. For further information on the limit values of other countries, please consult a competent occupational hygiene expert or the local regulatory authority of the country involved.

The international limit values for aluminium oxide are listed under the following link: <http://limitvalue.ifa.dguv.de/>.

8.2 Exposure controls

To comply with workplace-related limit values, combined technical and individual protection measures are often necessary. For the identified uses (Section 1.2), technical control devices and personal protection measures are recommended. Technical measures and the selection of appropriate processes have priority over the use of personal protective equipment.

8.2.1 Appropriate engineering controls

Avoid or minimise dust formation. Closed processes and local extraction devices are to be used in order to keep airborne dust concentrations below the permissible exposure limit value. With high dust content in the air, use a ventilation system. If dust formation cannot be avoided, the air must remain below exposure limit values through ventilation of the dust content. Organisational measures are to be applied, for example keeping people away from dusty areas.

Recommended measuring procedures for workplace-related measurements: see the professional association series of papers.

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8.2.2 Individual protection measures, such as personal protective equipment

General

When the product is used as intended, no personal protective equipment is necessary. Treat the product in compliance with the safety instructions.

Eye/face protection

In case of dust generation, wear closed protective goggles according to the EN 166 Standard.

Skin/hand protection

People suffering from dermatitis or with very sensitive skin should take appropriate precautions (e.g. wear gloves or use protective cream). Wash hands after working. The use of gloves compliant to the EN 374 standard is recommended.

Respiratory protection

Install effective exhaust ventilation and/ or sufficient ventilation. In case the permissible exposure limit values in the workplace are exceeded, a breathing mask must be worn in accordance with the regulations applied in the EU or current national regulations (e.g. particle filter P2 or P3 according to the EN 143 standard).

Occupational hygiene

During work do not drink, eat or smoke. Wash your hands before any breaks and after finishing work, and if necessary have a shower. Avoid contact with eyes and skin. After work, workers should wash or have a shower and use skin care products. Clean contaminated clothing, shoes, watches, etc., before re-using.

8.2.3 Environmental exposure controls

See also Sections 6 and 7.

Air

Prevent wind-blown dispersal. Compliance with dust emission limit values according to the Technical Instructions on Air Quality Control.

Water

Wastewater and groundwater regulations must be observed.

Ground

Compliance with the Federal Soil Protection Ordinance. No special control measures required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a)	Physical state	powder - solid
(b)	Colour	brownish
(c)	Odour	odourless
(d)	Melting point/freezing point	> 1610° C
(e)	Boiling point or initial boiling point and boiling range	not applicable
(f)	Flammability	not applicable
(g)	Lower and upper explosion limits	not applicable to solids according to Regulation (EU) 2020/878.
(h)	Flash point	not applicable to gases, aerosols and solids according to Regulation (EU) 2020/878.
(i)	Ignition temperature	applies only to gases and liquids according to Regulation (EU) 2020/878.
(j)	Decomposition temperature	not applicable
(k)	pH value	5 - 8 (400 g/l at 20° C)
(l)	Kinematic viscosity	applicable to liquids only according to Regulation (EU) 2020/878.
(m)	Solubility	negligible
(n)	Partition coefficient n-octanol/water (log value)	not applicable
(o)	Vapour pressure	not applicable
(p)	Density and/or specific gravity	- / 2.5 - 2.7
(q)	Relative vapour density	only applicable to gases and liquids according to Regulation (EU) 2020/878
(r)	Particulate properties	The X ₅₀ value is between 2µm and 25µm.

9.2 Other information

Not applicable

9.2.1 Information on physical properties

Not applicable

9.2.2 Other safety characteristics

Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

In case of appropriate storage and handling, no hazardous reactions are known.

10.2 Chemical stability

The substance is stable.

10.3 Possibility of hazardous reactions

None

10.4 Conditions to avoid

Moisture and water during storage may cause lump formation and loss of product quality.

10.5 Incompatible materials

None

10.6 Hazardous decomposition products

None

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SECTION 11: Toxicological information

11.1 Information on hazard classes according to Regulation (EC) No 1272/2008

a) Acute toxicity

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

b) Skin corrosion/irritation

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

c) Serious eye damage/irritation

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

d) Respiratory or skin sensitisation

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

e) Germ cell mutagenicity

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

f) Carcinogenicity

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

g) Reproductive toxicity

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

h) Specific target organ toxicity – single exposure

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

i) Specific target organ toxicity – repeated exposure

Repeated exposure to dust may cause pulmonary disease (silicosis).

j) Aspiration hazard

No information available.

Delayed and immediate effects, as well as chronic effects from short and long term exposure

Immediate effects

Irritation of the eye caused by exposure to foreign bodies may occur

Chronic effects with prolonged exposure

This product is contaminated with more than 10% respirable quartz and is therefore classified as STOT RE1 according to the criteria defined in Regulation (EC) No. 1272/2008.

Prolonged and/ or intensive exposure to dust containing respirable crystalline silica may cause silicosis. This disease consists of a nodular pulmonary fibrosis caused by the inhalation and deposit of mineral dust.

In 1997, the International Agency for Research on Cancer (IARC) concluded that occupational exposure to crystalline silica can cause lung cancer in humans. However, the IARC specified that this no longer applies to all forms of exposure and all types of crystalline silica. (IARC-Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, volume 68, IARC, Lyon, France.)

In 2003, the EU's Scientific Committee on Occupational Exposure Limits (SCOEL) came to the conclusion that the main effect of inhalation of respirable crystalline silica dust in humans is silicosis. "We have sufficient information to conclude that there is an increased relative risk of lung cancer for people who are suffering from silicosis. Employees working in quarries and in the ceramic industry who are exposed to crystalline silica dust, but that are not suffering from silicosis, are apparently not affected by this increased risk of lung cancer. Therefore, it can be assumed that prevention of silicosis also reduces the risk of cancer..."(SCOEL SUM Doc 1994-final, June 2003).

There are numerous indications that an increased risk of lung cancer is restricted to people who are already suffering from silicosis. The protection of workers against silicosis should be ensured in compliance with the specified regulatory occupational exposure limit values and, if required, by ensuring implementation of additional risk management measures (see Section 16).

11.2 Information on other hazards

No endocrine disrupting properties or other adverse effects are known.

SECTION 12: Ecological information

For the product, no ecotoxicological data is available. Quartz is a mineral found in nature and is used worldwide. Adverse consequences for the environment can be ruled out.

12.1 Toxicity

The product is not ecotoxic. Further data are not available from the raw material supplier.

12.2 Persistence and degradability

Quartz is not biodegradable.

12.3 Bioaccumulative potential

No data available, as no data are available from the raw material supplier.

12.4 Mobility in soil

No data available, as no data are available from the raw material supplier.

12.5 Results of PBT and vPvB assessment

No data available, as no data are available from the raw material supplier.

12.6 Endocrine disrupting properties

No data available, as no data are available from the raw material supplier.

12.7 Other adverse effects

No data available, as no data are available from the raw material supplier.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Collect the product dry. Avoid formation of dust.

It can be disposed of together with household waste in compliance with local regulations. If necessary, coordinate disposal with the local competent authority.

Recommendation

Agree on the correct waste code with the disposal company.

Waste code according to the European List of Waste (LoW)

010410 – dusty and powdery waste

Treatment of purified/unclean packaging

150106 – mixed packaging suitable for material recycling

The formation of dust as a result of the remains of packaging should be avoided. Store contaminated packaging materials in closed containers. The recycling and disposal of packaging materials must take place in accordance with local applicable regulations and should be performed by a certified waste management company. Do not use packaging materials several times.

SECTION 14: Transport information

With respect to transport regulations, the product is not hazardous (ADR, RID, ADN, IMDG, ICAO/IATA).

14.1 UN number or ID number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

No special measures

14.7 Carriage in bulk by sea in accordance with IMO instruments

Not applicable

SECTION 15: Regulatory information

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

The product does not fall within the registration requirement of EC Regulation 1907/2006 (REACH).

EU regulations

National regulations

When handling this product, the following valid legal provisions are i. a. to be complied with

AwSV Water hazard class: nwg – not hazardous for water

TRGS 500 "precautions"

TRGS 510 "Storage of hazardous substances in portable containers".

TRGS 559 "Mineral dust"

TRGS 900 "Work-place related limit values"

TRGS 906 "List of carcinogenic activities or processes according to §3 paragraph 2 no. 3 GefStoffV"

MuSchG "Maternity Protection Act"

JuSchG "Youth Protection Act"

Technical Instructions on Air Quality Control

Regulation on occupational health care (ArbMedVV)

Basic principles of the Institution for Statutory Accident Insurance and Prevention on occupational medical examinations

15.2 Chemical safety assessment

No Chemical Safety Assessment is required for this mixture.

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SECTION 16: Other information

16.1 Changes to the previous version

Header adapted; paragraph 1.1: updated; paragraph 2.2.1: H + P phrases revised; paragraph 6.4: reference inserted; paragraph 9.1: paragraph adapted to information from Regulation (EU) 2020/878; paragraph 9.2.1, 9.2.2: new inserted; paragraph 11.1: heading and bullet points aligned with Regulation (EU) 2020/878; paragraph 11.2: new inserted; paragraph 12: editorial changes; paragraph 12.6: new inserted; paragraph 14.1, 14.7: alignment of headings with above-mentioned Regulation; paragraph 15.1: laws updated; 15.2: editorial changes; paragraph 16.6: new inserted.

16.2 Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ArbMedVV	Verordnung zur arbeitsmedizinischen Vorsorge (Regulation on occupational health care)
BImSchV	Bundes-Immissionsschutzverordnung (German Federal Emission Control Act)
BG	Berufsgenossenschaft (Institution for Statutory Accident Insurance and Prevention)
CAS	Chemical Abstracts Service
CLP	Classification, labelling and packaging (Regulation (EC) No. 1272/2008)
GefStoffV	Gefahrstoffverordnung (Hazardous Substances Ordinance)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IMDG	International agreement on the Maritime transport of Hazardous Goods
PBT	Persistent, bio-accumulative and toxic
REACH	Registration, Evaluation and Authorisation of Chemicals (Regulation (EC) 1907/2006)
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SCOEL	Scientific Committee for Occupational Exposure Limits
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
SWeRF	Size Weighted Relevant Fine Fraction
TRGS	Technische Regeln für Gefahrstoffe (Technical rules for hazardous substances)
VCI	Verband der chemischen Industrie e.V. (Registered association of the chemical industry)
vPvB	Very persistent, very bioaccumulative
AwsV	Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Regulation on plants for handling substances hazardous to water)

16.3 Literature references and sources of data

With regard to the sources of key data and technical information we refer to the information provided by the raw material supplier/ manufacturer or the ECHA Classification and Labelling Inventory.

16.4 Training appropriate for workers

In addition to training programmes for employees on the topics of health, safety and environment, companies must ensure that their employees read and understand this safety data and are able to implement its requirements. Employees must be informed of the presence of crystalline quartz and trained on the intended use of the product.

16.5 Social dialogue on respirable crystalline silica

On 25 April 2006, the cross-sector "Agreement on Workers' Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it" was signed. This autonomous agreement, funded by the European Commission, is based on guidelines concerning good practices. The conditions specified in 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, its annexes and the guidelines concerning good practices can be found at <http://www.nepsi.eu>. These provide useful information and guidance for the handling of products containing respirable crystalline silica. References are available at EUROSIL (European Association of Industrial Silica Producers).

Occupational exposure limits can also be found at www.nepsi.eu.

16.6 Information on NANO

We do not use nanotechnology processes and no synthetic nano-materials are used for production. However, we cannot exclude the presence of small amounts of nanoparticles in the material. To obtain the desired particle size distribution in our product, the product is crushed and then sieved. It could be that some nanoparticles are produced in such a comminution process. By the way, the same applies to products such as flour or sugar! It is therefore not possible to exclude NANO material.

16.7 Disclaimer

The information contained in this safety data sheet describes the safety requirements of our product and is based on our current level of knowledge. It implies no guarantee of the product properties and does not justify a contractual legal relationship. This safety data sheet serves the user as reference information. Although this safety data sheet has been drawn up with great care, no guarantee for data accuracy, and no liability for the consequences of printing, typeset or transcription errors can be accepted. The existing laws, regulations and rule systems, including those not mentioned in this data sheet, must be complied with by the recipient of our products under their own responsibility.