

In accordance with Directive 1907/2006/EC, 2020/878

Version 2.0

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Trade name: Form Sand

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

1.1 Product identification :

Name of the product : F sand.
Trade name: OBB Sand E, E 13, EM, E-fett, S, SM, S.fett, K, K-fett, DM

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

Identified use(s) : Industrial use as foundry sand.
Uses advised against : No further relevant information available.

1.3 Contact details of the supplier providing the safety data sheet

Responsible distributor: ASSYST bvba / A.S.O.W. bvba
Hellegatstraat 13a
2590 Berlaar
Belgium
Tel.: +32 495 50 61 14 / +32 496 83 70 27
Website: www.assyst.org / www.artsuppliesonweb.com
E-mail: ao@assyst.org / vera.opsommer@assyst.org

1.4 Emergency telephone number :

For Belgium:

Call the **Poison Control Center (070 245 245 - free)**, if not available: **02 264 96 30** (normal rate) or your doctor. In life-threatening situations, always call the European emergency number **112**.

NHS 24 Direct

For help from a GP, visit your GP surgery's website, use an online service to contact your GP, or call the surgery. **For urgent medical help**, use the NHS 111 online service, or **call 111** if you are unable to get help online. **For life-threatening emergencies, call 999** for an ambulance. There is more information about getting medical help on the NHS website.

SECTION 2: Identification of hazards

2.1 Classification of the substance or mixture :

Classification according to Directive (EC) No 1272/2008 and its amendments.

This product is not classified as a dangerous substance or preparation due to its wet state.

See section 15.

Other hazards :

The product with quartz as its main component (contains respirable quartz) is bound with oil and therefore supplied with low dusting behaviour.

After using the sand, the formation of respirable crystalline silicon dioxide (fine quartz dust) may be possible during processing (e.g. mixing sand, separating and grinding castings). Prolonged inhalation of fine quartz dust can cause dust lung disease (silicosis).

Avoid inhalation exposure if the OEL is exceeded in the long term.

See sections 8, 11 and 15.

2.2 Elements of the label :

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

Pictogram: none

Hazard-determining components of labelling contains: none

Hazard warnings: none

Safety instructions: none

Further labelling elements

EUH 210 Safety data sheet available on request.

2.3 Other hazards :

Does not meet the criteria for PBT or vPvB in accordance with Annex XIII.

Ecological information:

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The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1%.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1%.

SECTION 3: Composition and information on ingredients**3.2 Mixture :****Chemical characterisation :**

Mixture of quartz sand, flour and organophilic bentonite with mineral oil.

Hazardous ingredients:

Name of the component	CAS No. EINECS No.	Classification (EC) No. 1272/2008 (CLP)	Weight in %.
Quartz (not subject to registration according to Annex V)	14808-60-7 238-878-4	STOT RE2, H373 1 % ≤ C ≤ 10 % respirable quartz	11 - 34

Further information: Mineral oil

1272-2008-EC 1.1.3.1 Annex VI Part L:

Classification as a carcinogen is not mandatory if it can be shown that the substance contains less than 3% DMSO extract, measured according to method IP 346 ("Determination of polycyclic aromatics in unused lubricating oils and asphaltene-free petroleum fractions - Dimethyl sulphoxide extraction-refractive index method", Institute of London).

This note applies only to certain complex oil derivatives in Part 3.

SECTION 4: First aid measures**4.1 Description of first aid measures :****General information**

When working in ironworks, foundries, etc., incompletely burnt carbon-containing compounds (mineral oil) can produce carbon monoxide (CO) and carbon dioxide (CO₂).

At the first symptoms (see 4.2), always take the affected person to a doctor or hospital.

Quantitative CO detection in the blood can be particularly important.

Therefore, a blood sample should be taken by a doctor as soon as possible after exposure (see 4.3) and oxygen should be administered if necessary.

After inhalation

From quartz sand: Supply fresh air, consult a doctor in case of complaints.

In case of respiratory distress: inhale oxygen.

When pouring: In case of symptoms (see 4.2) due to inhalation of fumes and exposure vapours: Under self-protection (respiratory protection), move the affected person to a quiet and well-ventilated place if safe to do so.

Consult a doctor immediately (show this safety data sheet).

If unconscious with respiratory arrest: Ensure that breathing is not obstructed and provide artificial respiration. Perform artificial respiration and, if necessary, cardiac massage and call a doctor immediately.

In case of unconsciousness without respiratory arrest: Stable lateral position.

Consult a doctor immediately.

After skin contact

Wash off immediately with plenty of soap and water.

If irritation, swelling or redness occurs, always consult a doctor.

When watering: Cool minor burns by holding the burnt area under cold running water for at least five minutes. Hypothermia of the body must be prevented.

Always consult a doctor in the event of severe burns.

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Rinse opened eye for 10-15 minutes under running water (remove contact lenses) and consult an ophthalmologist.

After ingestion

Rinse mouth and drink 1-2 glasses of water (dilution effect).

Do not induce vomiting.

Consult a doctor if symptoms persist.

If vomiting occurs, keep the head low so that the vomit does not enter the lungs (aspiration).

Then place the person in a stable lateral position with raised legs.

Always assume that aspiration has occurred and take the child to a doctor or hospital even if there are no symptoms.

4.2 Most important symptoms and effects, both acute and delayed :

Inhalation of: Quartz dust can cause health problems such as coughing, breathing difficulties and sputum production.

Smoke gases (e.g. carbon monoxide, carbon dioxide) can lead to oxygen depletion in the body and ultimately to internal asphyxiation.

Symptoms of chronic/low exposure: fatigue, headache, dizziness, sleep disorders, irritability, etc.

Symptoms of increased exposure: headache, dizziness, nausea, drowsiness, ringing in the ears, palpitations, muscle failure, fainting and even heart failure and respiratory paralysis.

Smoke or filter dusts can irritate the respiratory tract and even cause lung damage.

Ingestion: Possible nausea and vomiting.

4.3 Advice on immediate medical assistance or specialised treatment required :

Inhalation of: Quartz dust: Symptomatic treatment (decontamination, vital functions), no specific antidote known.

Carbon monoxide, carbon dioxide can lead to oxygen depletion in the organism, administer oxygen if necessary.

Quantitative CO detection in the blood can be particularly important.

Therefore, a blood sample should be taken as soon as possible after exposure using a venule containing an anticoagulant additive.

Repeated ECG examinations and neurological findings, etc., as some organic changes only become manifest after a certain latency period.

More detailed treatment also under (CAS. No. required, see section 8.1) <http://gestis.itrust.de>.

SECTION 5: Fire-fighting measures

5.1 Extinguishing agents :

Suitable extinguishing agents :

Carbon dioxide, powder extinguisher or water spray.

Larger fires with water spray jet or alcohol-resistant foam.

Unsuitable extinguishing agents :

Full water jet.

5.2 Special hazards arising from the substance or mixture

Incomplete combustion is likely to result in a complex mixture of solid and liquid particulates, gases including carbon monoxide (CO), carbon dioxide (CO₂), sulphur and nitrogen oxides in the air.

Additional, undetermined organic compounds of the same elements. Unknown organic and inorganic compounds.

5.3 Notes for the fire brigade :

In the event of large fires or in closed or poorly ventilated rooms, wear self-contained breathing apparatus with a full face mask in pressurised mode and fire-resistant protective clothing.

SECTION 6: Accidental release measures for the substance or mixture

6.1 Personal precautions, protective equipment and emergency procedures :

Avoid dust formation, wear protective equipment.

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Observe sections 7 and 8.

Keep unprotected persons away.

6.2 Environmental precautions :

Do not allow to enter drains/surface water/groundwater.

6.3 Methods and material for containment and cleaning

Technology to prevent the spread:

If there is a risk of entry into the sewerage system, set up barriers and/or cover the sewerage system.

Suitable cleaning methods:

Cleaning process:

Pick up mechanically, avoiding dust formation, and dispose of in accordance with regulations.

6.4 Reference to other sections :

Observe protective measures under sections 5, 7, 8, 10, 13.

SECTION 7: Handling and storage :

7.1 Precautions for safe handling

Note on safe handling:

Avoid dust formation.

Provide extraction in case of dust, gas or vapour development.

Clean the extraction system at regular intervals depending on the degree of soiling. Do not inhale dust/ gases/ vapours/ aerosols, wear respiratory protection if ventilation is inadequate.

Avoid prolonged intensive skin contact.

Avoid contact with eyes.

Clean skin thoroughly before breaks and after work and care for it according to the skin protection plan.

Comply with minimum standards according to TRGS 500.

Ensure compliance with the occupational exposure limit value(s) (OEL) and/or other limit values (Section 8).

Safety measures when watering, etc:

Carbon monoxide (CO), carbon dioxide (CO₂) and/or sulphur/nitrogen oxides can be produced from incompletely burnt carbon-containing compounds (e.g. mineral oil) when working in ironworks, foundries and similar.

These toxic fumes and dust particles must be ensured within the limit values (Section 8) using suitable extraction systems at the point of discharge (observe emission limit values, provide exhaust air purification if necessary) and appropriate ventilation (ASR A3.6).

The following safety measures should be taken to protect against inhalation of fumes and exposure vapours:

- ✓ Compliance with limit values A and E for dust and gases (TRGS 900) and measurement, control and reporting of limit values for carbon monoxide (TRGS 903), see section 8.
- ✓ If the limit values are exceeded, preventive examinations must be arranged.
- ✓ Point extraction with filter system to reduce particles with proof of sufficient effectiveness (GefStoffV §9).
- ✓ The functionality of the extraction system must be tested by a competent person and the test results documented.
- ✓ Provide a wet Hoover or Hoover with filter for cleaning the work area.
- ✓ Observe workplace ventilation (BGR121/ ASR A3.6 - Ventilation).
- ✓ If there is a risk of the limit value being exceeded. CO monitoring by technical means and provision (GefStoffV §9(6)) of respiratory protection (BGR190/use).
- ✓ Demarcate CO danger zone, affix warning/safety signs and prohibition signs (GefStoffV §9(6))
- ✓ Operating instructions/ annual toxicological instruction of employees; carbon monoxide, quartz fine dusts (GefStoffV §14)
- ✓ When working alone (GefStoffV §9(7)), supervision or monitoring by technical means should be provided.

Measures to protect against fire and explosions:

No special measures required.

Measures to prevent dust and aerosols:

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Keep the height of discharge, filling and dumping points as low as possible.

Measures to protect the environment:

Avoid release into the environment.

General hygiene measures:

Avoid inhalation of dust.

Avoid contact with eyes, skin and clothing.

Comply with minimum standards according to TRGS 500.

Do not smoke, eat or drink.

Wash hands after use.

Preventive skin protection. Store street and work clothing separately.

Do not shake out or blow off dusty work clothes - but clean them frequently.

7.2 Conditions for safe storage, taking into account any incompatibilities

Information on storage conditions:

No special measures required.

Requirements for storage rooms and containers:

How risks of the following kind can be countered:

Incompatible substances and mixtures: Keep away from strong oxidising agents.

How the effects of the following factors can be controlled:

Temperature: Protect from frost and heat.

Sunlight: Do not expose to direct sunlight.

Moisture: Keep away from water and moisture.

How the properties of the mixture can be maintained:

Packaging: Keep bags tightly closed.

Storage class: LGK 13 Non-combustible solids (according to VCI/ TRGS 510)

7.3 Specific end use :

Industry and sector-specific guidelines:

Please refer to our technical data sheet for additional information.

SECTION 8: Exposure controls/personal protective equipment

8.1 Control parameters :

Occupational exposure limit values and/or biological limit values Occupational exposure limit values (OEL)

Germany

Components with limit values that require monitoring at the workplace:	
(CAS)14808-60-7 Quartz	
Quartz, respirable (A) (including cristobalite and tridymite)	TRGS 906 List of carcinogenic activities or processes §3 Para. 2 No. 3 GefStoffV (in July 2005) Germany 0.05 mg/m ³ (in July 2016)/ International limit values see appendix
AGW (Germany) general. Dust limit (respirable part A) general. Dust limit (inhalable fraction E)	1.25 mg/m ³ TRGS 900 Oct.2014 3 mg/m ³ TRGS 900/901 Jan.2006 (transitional until 2018) 10 mg/m ³ TRGS 900/901 Jan.2006
Additional information: The AGW of the EU countries and handling instructions are published on the website www.nepsi.eu "Leitfaden zu lungengängigem kristallinem Siliziumdioxid".	
Mineral oil	
Oil mist	5 mg/m ³ TWA TLV (ACGIH) USA
DNEL	
Inhale	DNEL Long-term exposure- systemic effects 5.4 mg/m ³ (worker)
Pouring with incomplete combustion of the mineral oil could result:	
Workplace-related limit values to be monitored:	
630-08-0 (CAS)	Carbon monoxide (CO)
AGW (Germany)	35 mg/m ³ ; Peak limit exceedance factor 2(II); Z (TRGS 900 as of 2015)
124-38-9 (CAS)	Carbon dioxide (CO2)
AGW (EU)	9100 mg/m ³ ; peak limit exceedance factor 2(II); (TRGS 900 as of 2015)
7446-09-5 (FALL)	Sulphur dioxide (SO2)

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AGW (Germany)	2.5 mg/m ³ ; Peak limit exceedance factor 1(I); Y (TRGS 900 as of 2015)
Biological boundary:	(TRGS 903) Relevant values for human health
630-08-0 Carbon monoxide (CO)	
BGW (Germany)	5 % (as at 05/13) Test material: whole blood Sampling time: end of exposure or end of shift Parameters: CO-Hb

8.2 Exposure controls and monitoring :**Suitable technical control equipment:**

Technical measures and the use of suitable working procedures take precedence over the use of personal protective equipment.

Ensure good ventilation.

This can be achieved by local extraction or general exhaust air.

See also section 7.

Individual protective measures :**Eye / face protection :**

Tight-fitting safety goggles (in accordance with EN 166).

Skin protection :**Gloves :**

Wear chemical protective gloves in accordance with DIN EN 374.

Suitable protective gloves:

Glove material: Nitrile rubber/ nitrile latex - NBR

Layer thickness (mm): ≥ 0.4 mm

Penetration time (min.): >480 minutes (permeation level:6)

The information is based on the manufacturer's experience and information from glove manufacturers.

Glove quality depends not only on the material but also on the manufacturer.

Recommendation: Check/ask the manufacturer.

When working with hot material: Use heat-resistant gloves with long cuffs or gauntlet gloves.

Unsuitable protective gloves:

Gloves made of fabric or leather.

To avoid skin problems, the wearing of gloves should be reduced to the necessary minimum and the wearing of cotton undergloves is recommended.

Skin protection care according to skin protection plan.

If gloves are to be reused, clean and ventilate them well before removing them.

Always check the glove for leaks before using it again.

Other protective measures (body protection):

Personal protective equipment must be selected depending on the activity and possible exposure, e.g. protective clothing (see BGR 189).

Respiratory protection:

For quartz dust: FFP2/P3 particle filter (TRGS 559 Annex 3).

When handling hot product (contains oil) in closed rooms, use approved respiratory protective equipment: closed face mask with filter insert/filter "A" or self-contained breathing apparatus.

If the exposure level cannot be determined or estimated with reasonable certainty, or if oxygen deficiency is possible, only self-contained breathing apparatus should be used.

Observe the rules for the use of respiratory protective devices and the wearing time limit in accordance with DGUV Rule 112-190.

Heat/cold protection:

Wear appropriate heat-resistant protective equipment when working with hot material.

Limitation and monitoring of environmental exposure

See sections 6, 7 and 15.

Do not allow to enter drains/surface water/groundwater.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties :

Appearance

Physical state:	solid
Colour :	red
Odour :	slightly like mineral oil
Odour threshold:	Not available

Security-relevant data

pH value:	Not available
Melting point/ range:	<-3-12°C (#) ISO 3016
Boiling point/range:	Not available
Flash point:	>220-230°C (#) DIN ISO 2592
Evaporation rate:	Not available
Flammability:	Not flammable
Lower explosion limit:	Not explosive
Upper explosion limit:	Not explosive
Ignition temperature:	Not applicable
Vapour pressure at 20°C:	<0.1 hPa (20°C) # calculated
Vapour density at 20°C:	Not determined
Density at 20°C:	0.92-0.94 g/cm ³ # DIN 51757
Solubility in / Miscibility with water at 20°C:	insoluble
Partition coefficient: n-octanol/water:	Not available
Auto-ignition temperature:	The product is not self-igniting
Decomposition temperature:	Not available
Change of state:	Not available
Viscosity:	Flowability Approx. 10-50% Mouldability Test
Explosive properties:	The product is not explosive
Oxidising properties:	Not available

(#) Values refer to oil

9.2 Other information

No other physical-chemical properties were determined.

As the product contains natural products, slight differences in colour may occur which do not mean a reduction in quality.

SECTION 10: Stability and reactivity

10.1 Reactivity :

None known.

See also section 7.2.

10.2 Chemical stability :

The product is stable if the regulations/instructions for storage and handling are observed.

10.3 Potentially hazardous reactions :

None known.

10.4 Conditions to avoid

Observe section 7: e.g. temperature.

10.5 Materials with chemical interaction :

Quartz reacts with fluorine under intense heat development.

Materials to avoid: Keep away from strong oxidising agents.

10.6 Hazardous decomposition products :

Under normal conditions at room temperature: none. Observe sections 7 and 8 when pouring.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects :

Classification according to Regulation (EC) No 1272/2008 (CLP):

No toxicological values are available for the mixture.

Acute toxicity:

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

Mineral oil:

Oral LD50 oral:> 5000 mg / kg (rat)

Dermal LD50:> 2000 mg / kg (rabbit)

Inhaler (dust / mist) LC50:> 5.53 mg / l (4h, rat)

(ECHA dossier)

Corrosive/irritant effect on the skin

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

Mineral oil:

Corrosion/irritation: non-irritant. (rabbit)

Serious eye damage/irritation

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

Mineral oil:

Eye damage/irritation: not irritating. (rabbit)

The solid content may cause a foreign body sensation, burning/stinging and possibly a slight irritant effect in the eye.

Sensitisation of the respiratory tract/skin

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

In case of overheating (vapours/mist) irritation of the lungs possible.

Germ cell mutagenicity

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

Mineral oil: In vitro mutagenicity/genotoxicity:

-OECD Guideline 471 (Bacterial Reverse Mutation Assay)

-OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

-OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

Result: negative.

Literature reference: ECHA Dossier

Carcinogenicity

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

Mineral oil: CMR effects (carcinogenic, mutagenic and toxic to reproduction):

none/none

Literature reference: ECHA Dossier

Reproductive toxicity

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

Developmental toxicity

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

Specific target organ toxicity after single exposure

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

Specific target organ toxicity with repeated exposure

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

Mineral oil:

Subacute inhalation toxicity:

Method: -

Exposure duration: 28d

Species: Rat

Result: > 980 mg/m³

Reference: J Appl Toxicol, Vol 11(4), pp 297-302

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Subacute dermal toxicity:

Method: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Exposure duration: 28d

Species: Rabbit

Result: 1000 mg/kg

Literature reference: ECHA Dossier

Respirable quartz: Prolonged inhalation of fine quartz dust can cause dust lung disease (silicosis).

There is sufficient evidence that the risk of developing lung cancer is increased in people suffering from silicosis.

Aspiration hazard

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

Symptoms and effects (delayed and chronic) with details of routes of exposure

also: information on toxicokinetics, metabolism and distribution

Long-term inhalation of fine quartz dust

can cause health problems such as coughing, breathing difficulties and sputum production.

Permanent health damage such as dust lung disease (silicosis), pulmonary fibrosis and chronic obstructive pulmonary disease possible.

Can lead to pulmonary tuberculosis as a secondary disease.

Can lead to lung cancer in dust lung diseases (silicosis and silicotuberculosis).

Inhalation during pouring, etc:

Smoke gases (e.g. carbon monoxide, carbon dioxide) can lead to oxygen depletion in the organism and even to internal asphyxiation.

Symptoms of chronic/low exposure: fatigue, headache, dizziness, sleep disorders, irritability, etc.

Symptoms of increased exposure: headache, dizziness, nausea, drowsiness, ringing in the ears, palpitations, muscle failure, fainting and even heart failure and respiratory paralysis.

Particularly affected areas: Tissues such as the brain, heart, liver and adrenal glands.

In addition, severe circulatory disorders occur, such as increased vascular permeability, vascular paralysis and slowing of blood circulation. (see "Fact sheet on BK No. 1201" - Diseases caused by carbon monoxide).

Smoke or filter dusts can irritate the respiratory tract and even cause lung damage.

Ingestion of the sand: Possible nausea and diarrhoea caused by the mineral oil.

11.2 Information on other hazards

Hormone-disrupting properties

Product:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1%.

SECTION 12: Ecological information

12.1 Toxicity :

Acute aquatic toxicity

No ecotoxicological values are available for the mixture.

Mineral oil:

Acute (short-term) fish toxicity (LL50) > 100 mg/l (96 h) Pimephales promelas (fathead minnow)

Acute (short-term) toxicity to crustaceans (EL50) > 10000 mg/l (48 h) Daphnia magna

Acute (short-term) toxicity to algae and cyanobacteria (NOEL) > 100 mg/l (3 d) Pseudokirchneriella

Subcapitata

(ECHA Dossier)

Chronic aquatic toxicity

No ecotoxicological values are available for the mixture.

Mineral oil:

Chronic (long-term) toxicity to crustaceans (NOEL) > 10 mg/l (21 d) Daphnia magna

(ECHA Dossier)

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12.2 Persistence and degradability :

Biodegradability

The product has not been tested.

Quartz sand and quartz flour are natural products.

The oil is not easily degradable.

Persistence

The oil is hardly soluble in water.

It can be largely eliminated from the water by abiotic processes (e.g. mechanical separation).

12.3 Bioaccumulation :

The product and the input materials have not been tested.

Quartz does not accumulate in the environment (no bioaccumulation potential).

12.4 Mobility in soil :

The product and the input materials have not been tested.

12.5 Results of the PBT and vPvB assessment

Does not meet the criteria for PBT or vPvB in accordance with Annex XIII.

12.6 Hormone-disrupting properties

Product:

Rating:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1%.

12.7 Other adverse effects :

Do not allow the product to enter the soil in an uncontrolled manner.

The product does not contain any substances listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

The threshold values for the release of pollutants (Regulation 166/2006/EC) must be complied with during casting and similar processes: e.g. carbon monoxide, carbon dioxide, nitrogen oxides, sulphur oxides, particulate matter.

Substances subject to release reduction regulations (Regulation 850/2004):

Polycyclic aromatic hydrocarbons (PAH) (see section 3.2, further information)

Potential to disrupt the endocrine systems

No data is available.

General information

Water hazard class (mixture/ Annex 4 of VwVwS (Germany)): (1) Slightly hazardous to water

SECTION 13: Disposal instructions

13.1 Waste treatment methods :

Treatment of contaminated packaging

Uncleaned packaging

Recommendation :

Packaging that cannot be cleaned must be disposed of in the same way as the substance: Disposal in accordance with official regulations.

Packaging from cleaned

15 01 02 (plastic packaging)

Waste code according to the Waste Catalogue Ordinance (AVV)

Do not dispose of even small quantities via the sewage system or waste bin.

The waste code is to be allocated according to AVV for specific industries, process types and waste types.

If necessary, it must be coordinated with the locally responsible authority (e.g. city administration or district office).

Possible categorisations are given below:

10 09 06 (Moulds and sands before casting)

10 09 08 (Moulds and sands after casting)

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Recommendation: Agree the exact waste code with the waste disposal company

Special precautions

Do not allow to enter the sewage system.

Disposal in accordance with local, official regulations.

relevant EU or other regulations

European Waste Catalogue

The six-digit waste code is to be assigned according to AVV by industry, process type, origin or waste type.

SECTION 14: Transport information

14.1 UN number

No dangerous goods in the sense of the transport regulations.

14.2 Appropriate cargo labelling according to UN model regulations

Not applicable.

14.3 Hazard class(es) for transport

Not applicable.

14.4 Packaging group

Not applicable.

14.5 Environmental risks

Harmful to the environment: no

14.6 Special precautions for the user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information is available.

SECTION 15: Information required by law

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

Additional information on categorisation:

This product may contain less than 1 % or between 1 and 10 % quartz (respirable).

Products with $\geq 10\%$ quartz (alveolar) are classified as STOT RE1.

Products between 1% and 10% quartz (respirable) are classified as STOT RE2.

Products containing less than 1 % (respirable) quartz are **not** classified.

Exceptions:

Regulation 1272/2008 (GHS) takes into account the aggregate state (Article 6.1) of the quartz sand for the classification, as only respirable quartz dust causes health hazards.

According to TRGS 559 point 3.3 no. 4a, quartz sand in a moist aggregate state has a low dust behaviour and therefore does not require classification.

European regulations

Regulation (EC) No 689/2008 (export and import of dangerous chemicals):

Restrictions according to REACH Annex XVII: For industrial use only.

List of substances subject to authorisation according to REACH Annex XIV: not listed.

Regulation (EC) No 648/2004 (Detergents Regulation (Environmental Risks)):

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD): not listed.

Regulation 166/2006/EC concerning the establishment of a European system for the registration of discharges and pollutant transfer registers (PRTR):

The release thresholds must be observed for the formation of pollutants in accordance with Annex II (e.g. CO, CO₂, particles).

When pouring, observe Annex VIII (see sections 12.6 and 3.2 above).

Regulation (EU) No 98/2013 (marketing and use of explosives precursors):

not listed

Regulation (EC) No 850/2004 (persistent organic pollutants):

If you start Article 6 u. See Annex III - List of substances subject to release control (see section 12.6 above).

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National regulations (Germany)

Water hazard class:

1 slightly hazardous to water (list classification VwVws Annex 4)

Reference to technical regulations for hazardous substances

TRGS 500- Precautionary measures

TRGS 559- Mineral dust

TRGS 910- Risk-related action plan for activities involving carcinogenic hazardous substances

TRGS 402- Identification and assessment of hazards arising from activities involving hazardous substances:

Inhalative exposure

Technical Instructions on Air Quality Control (TA-Luft)

Other organic substances (Chapter 5.2.5) Substances in waste gas, with the exception of particulate organic substances, must not exceed a total mass flow of 0.50 kg/h or a mass concentration of 50 mg/m³, in each case specified as total carbon.

Share: ≤ 5%

Dust emissions in waste gas (Chapter No. 5.2.1)

Mass flow rate ≤ 0.2 kg/h or mass concentration ≤ 20 mg/m³

If the mass flow is maintained, the mass concentration of 150 mg/m³ must not be exceeded in the exhaust gas.

Other relevant regulations

BG data sheet (Germany):

BGR 195 "Rules for the use of protective gloves" (previous ZH 1/706)

BGR 197 "Use of skin protection" (previous ZH 1/708)

BGR 192 "Use of eye and face protection" (previous ZH 1/703)

BGR 189 "Rules for the use of protective clothing" (previous ZH 1/105)

DGUV Rule 112-190 "Use of respiratory protective devices" (previously BGR 190)

BG leaflet:

BGI 546 "Handling hazardous substances".

BGI 660 "General occupational health and safety measures for handling hazardous substances". (previous M 053)

Fact sheet on BK No. 1201

Diseases caused by carbon monoxide

Youth Labour Protection Act JArbSchG

Employment restrictions for the development of quartz dust

Young people aged 15 and over may only be employed if this is necessary to achieve the training objective, the workplace limit value is not exceeded and supervision by an expert and supervision by a company doctor or safety officer is guaranteed.

Hazardous Substances Ordinance GefStoffV

Occupational health precautions for the development of quartz dust

When working with fumed silica (quartz dust), if exposure occurs, occupational health provisions must be proposed (readiness for treatment).

If the general dust limit value for respirable or airborne dust is not complied with, regular occupational health precautions must be taken (mandatory provision).

G 1.1 Mineral dust, Part 1: Silica dust

G 1.4 Dust pollution

If the risk assessment indicates that respiratory protection must be worn, occupational health precautions must be taken in accordance with DGUV Principle G 26 Respiratory protective devices.

15.2 Chemical safety assessment :

The mixture was not subjected to a chemical safety assessment.

SECTION 16: Other information

The information is based on our current state of knowledge, but does not constitute a guarantee of product properties and does not establish a contractual legal relationship.

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Hazard warnings from sections 2 and 3

STOT RE2 - Specific target organ toxicity - Repeated exposure category 2

H373 - May cause lung damage through prolonged or repeated exposure if inhaled.

References and data sources

Regulations

REACH Regulation EC/1907/2006, last amended by EU/878/2020

CLP Regulation EC/1272/2008, last amended by Regulation EU/491/2015

Internet

<http://www.echa.europa.eu>

<http://www.baua.de>

Literature

Safety Data Sheet Substance

methods according to Article 9 of Regulation (EC) No 1272/2008 have been used to assess the information for the purpose of classification

Health and environmental hazards: Calculation method

Physical hazards: Assessment based on physical properties.

Training for employees

Employees must be informed about the silica content of the product and trained in the proper handling of the product.

Information and training material can be found in the quartz fine dust guidelines of the "Federal Association of the German Gravel and Sand Industry" on the homepage www.nepsi.eu.

Instruction on hazards and protective measures based on the operating instructions (TRGS 555).

The instructions must be given before the start of employment and at least once a year thereafter.

Abbreviations and acronyms:

Alveolar quartz:	Silicon dioxide (crystalline), cristobalite and tridymite
DMSO:	Dimethyl sulphoxide
ADR:	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID:	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG:	International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
IATA-DGR:	Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO:	International Civil Aviation Organisation
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
GHS:	Globally Harmonised System of Classification and Labelling of Chemicals
EINECS:	European Inventory of Existing Commercial Chemical Substances
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
DNEL:	Derived No Effect Level
PNEC:	Predicted No Effect Concentration
RPE:	Respiratory Protective Equipment
RCR:	Risk Characterisation Ratio (RCR= PEC/PNEC and RCR= Exposure Level/ DNEL)
VOC:	volatile organic compound(s)
LC50:	Lethal concentration, 50 per cent
LD50:	Lethal dose, 50 per cent

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PBT: Persistent, liable to bioaccumulate, toxic
TRGS: Technical Regulations for Hazardous Substances
vPvB: very Persistent and very liable to bioaccumulate

Data sheet issuing area

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International limit values for crystalline SiO₂ (C = cristobalite | T = tridymite)

Country	Limit value Quartz C/T		Dust fraction	Average time	Remarks
D	0.05 *	0.05 (C) *	./.	./.	BMAS
F	0.1	0.05	A	8 h	Ministry of Labour
GB	0.1	0.1	A	8 h	HSE
I	0.05	0.05	A	8 h	(ACGIH)
NL	0.075	0.075	A	8 h	SZW
DK	0.1	0.05	A	8 h	DA
CH	0.1	0.1	A	8 h	Gov.Dir.
USA	0.05 10/%Q+2	0.05 15/%C+2 5/%T+2	A	8 h	NIOSH OSHA OSHA
S	0.1	0.05	A	8 h	NBOSH

* In Germany, a value of 50µg/m³ has been the assessment standard for exposure to quartz and cristobalite since 2016.