

PRODUCT SAFETY DATA SHEET
(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-07-EN
Rev. No. 2
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Date of revision: December 12, 2022

PRODUCT SAFETY DATA SHEET

for

Silica fume MICROXIL, Silica fume MICROXIL+

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
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1.1 Product identifier

Name of substance:	Silica fume MICROXIL, Silica fume MICROXIL+
Chemical name:	273-761-1 / Silica fume
Synonyms:	MICROXIL, MICROXIL+, MX, MX+
Trade name:	Silica fume MICROXIL, Silica fume MICROXIL+
EINECS:	273-761-1
CAS:	69012-64-2
Molecular weight:	60.0843
REACH registration number:	01-2119486866-17-0010

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

Brief description of the uses of the substances:	Please see the identified uses of the substances/mixture in Table 1 of the Annex to the Safety Data Sheet.
Unrecommended use:	limit contact with iron elements

1.3 Details of the supplier of the safety data sheet

Name:	OFZ, a.s.
Address:	Široká 381, 027 41 Oravský Podzámok, Slovakia
Phone number:	+421/43/5804 111
Fax number:	+421/43/5804 320
E-mail:	ofz@ofz.sk

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1.4 Emergency telephone number

European emergency tel. number: 112

Emergency phone number
company: +421/43/5804 111

National toxicological
information center: +421 2 5477 4166

2. HAZARDS IDENTIFICATION

2.1 Classification of substances or mixture

2.1.1 Classification of substances according to the CLP / GHS regulation

The substance does not meet the criteria for classification in accordance with Regulation EC 1272/2008.

2.2 Label elements

2.2.1 Labeling according to the CLP / GHS regulation

The substance does not meet the criteria for classification in accordance with Regulation EC 1272/2008.

Signal word: None

2.3 Other hazards

The substance does not meet the criteria for classification as a PBT or vPvB substance.

During handling, dusting, damage to the packaging and subsequent leakage of MICROXIL into the working environment, fine particles may be dispersed into the air and the workplace exposure limit value (OEL) may be exceeded for a short time. For a long-term exposure, employees are at risk of health damage and silicosis.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Degree of purity: ≤ 79.99% for MICROXIL (weight concentration)
> 80.0% for MICROXIL+ (weight concentration)

3.1 Constituents

Constituents	Contents	Notes
SiO ₂ (silicon dioxide) CAS: 7631-86-9 EINECS: 231-545-4	≤79.99% w/w >80.0 % w/w	MICROXIL MICROXIL+

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3.2 Admixtures

Si (elementary silicon)	≤ 1.0% w/w	MICROXIL. MICROXIL+
CaO (calcium oxide) CAS: 1305-78-8 EINECS: 215-138-9	≤ 3.5% w/w	MICROXIL. MICROXIL+
SO ₃ (sulphur trioxide) CAS: 7446-11-9 EINECS: 231-197-3	≤ 4.0% w/w	MICROXIL. MICROXIL+
Na ₂ O eq. (sodium oxide) CAS: 1313-59-3 EINECS: 215-208-9	≤ 8.0% w/w	eq . MICROXIL. MICROXIL+
Cl ⁻ (chloride) CAS: 16887-00-6	≤ 1.8% w/w	MICROXIL. MICROXIL+

4. FIRST AID MEASURES

4.1 Description of first aid measures

<u>General information:</u>	In contact with clothes, any skin and eyes, health damage is not expected. However, in case of or persistent discomfort, seek medical attention immediately.
<u>Inhalation:</u>	Mechanical dust inhalation: Move the person out of the area with amorphous silica dust particles.
<u>Skin contact:</u>	Wash the skin with water and/or mild soap.
<u>Eye contact:</u>	Rinse the eyes with water or physiological solution. In case of persistent discomfort, consult a doctor.
<u>Ingestion:</u>	Remove the source to prevent further ingestion. See inhalation.

4.2 Most important symptoms and effects, both acute and delayed

There is no danger of acute poisoning or damage to health - the substance is not classified.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable:

Silica fume MICROXIL, MICROXIL+ is not flammable and its dust does not pose a risk of explosion.

Not established

Unsuitable:

Not established

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5.2 Special hazards arising from the substance or mixture

None

5.3 Advice for firefighters

Not established

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Wear protective equipment (see section 8).

6.1.2 For emergency personnel

Ensure adequate ventilation. Ensure that the closed places are well-ventilated before entering

Avoid stirring up and formation of dust.

Wear protective equipment. (see section 8)

Avoid inhalation: make sure the area is well-ventilated, wear suitable respirators and protective equipment. (see section 8)

6.2 Environmental precautions

Based on the available studies, the given substance does not endanger the environment. However, a large amount of material can clog drains, so disposing of it in this way is not recommended.

6.3 Methods and material for containment and cleaning up

Avoid handling the material in the way that creates an increase in the concentration of MICROXIL and MICROXIL+ dust in the air and also its exposure. Released material should be collected in suitable containers. It is better to use vacuum cleaners than brooms for cleaning.

6.4 Reference to other sections

For more detailed information regarding exposure controls and personal protective equipment, see section 8.

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7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid stirring up the dust and dust formation. Wear protective clothes, gloves, suitable respirators and safety glasses.

Avoid contact with hydrogen fluoride (HF).

The reaction with HF leads to the formation of poisonous gas (SiF₄).

7.2 Conditions for safe storage, including any incompatibilities

Store in closed containers such as big bags, sacks, barrels, containers or silos. In the case of storage in impermeable packages preventing moisture, special secured storage areas are not required. In the case of storage in other than impermeable packaging, storage in storage areas and reservoirs meeting the requirement of covered closed silos, or of covered such free spaces (industrial loading boxes).

7.3 Specific end use(s)

None. Please check the identified uses of substances in Table 1 of the Annex to the Safety Data Sheet.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limit values

Workplace exposure limit value (OEL): 4 mg/m³ inhaled dust from MICROXIL / MICROXIL +

Derived Zero Exposure Limit (DNEL) for long-term exposure: 0.3 mg/m³ respirable dust from MICROXIL, which is achieved while keeping the OEL below the exposure limit

PNEC water : None. The derivation of a PNEC value is not justified for this data set, as AF 1000 together with the threshold resulted in very small PNEC values. These values were well below the normal natural concentrations of dissolved silica on surface waters in the natural environment. Standard AF methods of PNEC derivation are not suitable for silicon. However, new studies need to be updated.

PNEC soil: None. MICROXIL / MICROXIL+ silica fume is not toxic to living organisms inhabiting the soil.

Sediment PNEC: None. The silica fume MICROXIL / MICROXIL+ is not toxic to living organisms inhabiting sediments.

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8.2 Exposure controls

To control possible exposure, it is necessary to prevent dust formation. The use of appropriate personal protective equipment is recommended. In the case of visible swirling of dust from silica dust MICROXIL/ MICROXIL+, it is necessary to ventilate and use means to protect the respiratory tract and eyes.

8.2.1 Workplace exposure control

Measure the workplace exposure limit regularly. If dust is generated during the handling of the material, use an exhaustion or ventilation system or other means to maintain the limit values of dust in the air.

8.2.2 Personal protective equipment

8.2.2.1 Eye/face protection

Wear safety glasses.

8.2.2.2 Skin protection

Wear protective clothes, gloves and protective hand cream.

8.2.2.3 Breathing apparatus protection

Use a certified respirator with enhanced filtration efficiency.

8.2.3 Control of environmental exposure

Dust emissions from the ventilation system or the workplace must be checked to see if they meet the requirements of environmental protection legislation. The silica fume of MICROXIL and MICROXIL+ does not endanger the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	white, gray or black substance in solid state in the form of powder
Odor:	none
Odor threshold:	none, the substance is odorless
pH:	not determined
Boiling point:	not determined (substance in solid state with active melting > 300°C)
Melting/solidification temperature:	> 1500 °C at 101.3 kPa
Flash point:	not determined (substance is inorganic and in solid, not liquid state)
Flammability:	non-flammable (the substance is inorganic with silicon in the highest oxidation state)

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Explosive properties:	not determined (no chemical groups with explosives present in the molecules)
Oxidizing properties:	not determined (the substance does not undergo an exothermic reaction with flammable materials)
Vapor pressure:	not determined (melting temperature > 300°C)
Bulk weight	0 - 800 kg/cm ³
Solubility in water:	OECD T/D screening test: ≤ 0.25 mg/l at pH 6 (21.5 °C); $0.37 \leq 0.72$ mg/l at pH 8 (21.5 °C) OECD 105: $1.3 \leq 5.3$ mg/l at pH 5.9 – 7.6 (20 °C)
Radiological indicators	
Mass activity index:	≤ 1
Distribution coefficient n- octanol / water (log. value):	not determined (substance is inorganic)
Viscosity:	not determined (at normal ambient temperature, the substance is solid and not liquid)
Autoignition temperature:	non-flammable (the substance is inorganic with silicon in the highest oxidation state)
Dissociation constant:	the substance does not decompose due to the lack of functional groups
Surface tension:	the substance is not active on the surface
Stability in organic solvents:	not determined (substance is inorganic)

9.2 Other information

No further information is available regarding the safe use of substances.

10. STABILITY AND REACTIVITY

10.1 Reactivity

It is not reactive under normal conditions.

10.2. Chemical stability

Under normal conditions and expected conditions of storage and handling, the substance is chemically stable.

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10.3 Possibility of hazardous reactions

In contact with hydrogen fluoride liquid, poisonous gases are formed.

10.4 Conditions to avoid

There are no dangerous reactions due to temperature, light pressure and impact.

10.5 Incompatible Materials

Avoid contact with hydrogen fluoride (HF). The reaction with HF leads to the formation of poisonous gases (SiF₄).
At a concentration of Cl⁻ above 0.3% wt. in the leach it could lead to a formation of HCl which can cause corrosion of iron elements and structural parts.

10.6 Hazardous decomposition products

They are not, if used in accordance with the intended use.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

End body	The result of the impact assessment
Toxicokinetics	<p>Results of animal studies:</p> <p>Inhalation toxicity study (13 weeks) (OECD 413), rats: no significant signs of accumulation in the lungs</p> <p>Inhalation (OECD 412, GLP) rats: no evidence of accumulation in the lungs</p> <p>Cross reference: synthetic amorphous silica The MICROXIL/ MICROXIL+ siliceous drift reaches a balanced level at which this substance is provided equal to its deposition. Upon termination or interruption of exposure, MICROXIL/ MICROXIL+ is rapidly eliminated from lung tissue.</p> <p>It is unlikely that a small or low level of impurities from MICROXIL / MICROXIL + should represent a burden of these elements for the human body or the toxicity of this substance.</p> <p>Ingestion of MICROXIL/ MICROXIL+ does not seem to have significant effects on the level of silicates in the tissues.</p>

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Acute toxicity	<p>The silica fume of MICROXIL and MICROXIL+ is not acutely toxic.</p> <p>Results of animal studies: Ingestion: LD 50 > 5,000 mg/kg body weight cross reference: see silicon dioxide (OECD 401, rat)</p> <p>Inhalation: LC 50 (4 h) > 2.08 mg/l in air, cross reference: see synthetic amorphous silica (OECD 2004a, rat)</p> <p>Through the skin: LD 50 > 5,000 mg/kg body weight, cross reference: see silica (Woltjen R, Calkins JE (1978a-d), rabbit)</p> <p>The siliceous drift of MICROXIL and MICROXIL+ in acute toxicity is not guaranteed.</p>
Skin corrosion/Skin irritation	<p>Results of animal studies: The silica fume of MICROXIL and MICROXIL+ does not irritate the skin (rabbit).</p> <p>Based on the weight of evidence and cross-reference from the amorphous mass, MICROXIL is non-irritating to the skin. No inclusion or further testing is suggested. As with dust, dust from MICROXIL can also cause undetermined mechanical movements of the eyes or respiratory tract.</p> <p>The inclusion of MICROXIL and MICROXIL+ silica fume in the framework of irritation and corrosiveness is not guaranteed.</p>
Serious eye damage/Eye irritation	<p>Results of animal studies: Silicon drift MICROXIL and MICROXIL+ does not irritate the eyes (rabbit).</p> <p>Based on the weight of evidence and a cross-reference from amorphous strength, MICROXIL is non-irritating to the eyes. No inclusion or further testing is suggested. As with dust, dust from MICROXIL can also cause undetermined mechanical movements of the eyes or respiratory tract.</p> <p>The inclusion of MICROXIL and MICROXIL+ silica fume in the framework of irritation and corrosiveness is not guaranteed.</p>
Respiratory or skin sensitization	<p>MICROXIL and MICROXIL+ silica fume has not been tested for properties that could use hypersensitivity. Its main ingredients, which have been shown to dissolve in artificial biological fluids (iron, magnesium, lead, aluminum and zinc), do not cause skin hypersensitivity. Without specific exposure to silicon components, including synthetic amorphous powder, no cases of hypersensitivity to these components have been described. MICROXIL is also not a substance that causes hypersensitivity of the skin or respiratory tract.</p> <p>The inclusion of MICROXIL and MICROXIL+ in the sensitization is not guaranteed.</p>
Mutagenicity of basic cells	<p>The silica fume of MICROXIL and MICROXIL+ is not genotoxic .</p> <p>Results of animal studies: Analysis of samples for the presence of a reverse mutation (Ames test, OECD 471): no <i>In vitro</i> test for the presence of chromosome anomalies in mammals (OECD 473): however Analysis of the sample for the presence of chromosome anomalies (OECD 475): without</p>

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	<p>Analysis of samples for the presence of lethal mutations of dominant genes (OECD 478): no</p> <p>Other metal admixtures that are present in MICROXIL and MICROXIL+ silica fume in a concentration of >0.1% and concentrated in higher amounts compared to pyrogenic by silica , they mainly include magnesium and zinc, which are not genotoxic elements and are not important considerations for the inclusion of Silica fume MICROXIL and MICROXIL+ in the group of mutagenic substances. Even if MICROXIL/MICROXIL+ contains lead up to 0.3% by weight, classification of the substance as mutagenic towards germ cells is required.</p> <p><i>In vitro</i> studies of bacterial mammalian cell genetics and cell transformation studies of synthetic amorphous strength (cross reference) were negative. Analysis of the Comet samples did not yield conclusive results. <i>In vivo</i> a test for the presence of chromosome anomalies and a test for the presence of lethal mutations of dominant genes, as well as <i>ex- vivo</i> study of cellular gene mutations in mammals, were negative.</p> <p>The inclusion of MICROXIL/ MICROXIL+ in the scope of genotoxicity is not guaranteed.</p>
Carcinogenicity	<p>MICROXIL/ MICROXIL+ is not carcinogenic.</p> <p>Results of animal studies: Chronic toxicity studies (OECD 452) mouse and rat: no effects</p> <p>The results of studies involving workers in the FeSi and silicon metal production industry did not show an increased incidence of cancer attributed to very fine particles of MICROSIL / MICROSIL + present when working in blast furnaces. Based on available information on synthetic amorphous silica , amorphous silica , including MICROXIL/ MICROXIL+, this substance is not carcinogenic. The additives in MICROXIL / MICROXIL + include crystalline silica, which may be present in this substance at a concentration of < 0.1% respirable crystalline silica. In this context, cultivable crystalline quartz is as important as its total concentration. In addition, this substance is currently not classified as carcinogenic within the EU. Silicon carbide in its fibrous or pore structure, which can be carcinogenic, is not present in MICROXIL / MICROXIL +.</p> <p>The inclusion of MICROXIL/ MICROXIL+ in the scope of carcinogenicity is not guaranteed.</p>
Reproductive toxicity	<p>The silica fume of MICROXIL and MICROXIL+ is not toxic for reproduction.</p> <p>Results of animal studies: Genotoxicological test for the presence of lethal mutations of dominant genes (OECD 452) rat: NOAEL (P): 5,000 mg/kg body weight/day, test for the presence of lethal mutations: immediately</p> <p>If a review of all toxicological data indicates that the data are sufficient for a direct conclusion regarding possible reproductive toxicity, no further testing will be required. Amorphous silica studies and dominant gene lethal mutation studies with calcium cremitate were not suitable for all pathological changes or harmful effects on the reproductive organs in the animals studied. The physical and chemical properties of silicon and its</p>

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	<p>widespread ability to provide that the threat of absolute reproductive toxicity does not exist</p> <p>The inclusion of MICROXIL and MICROXIL+ silicon drift within reproductive toxicity is not guaranteed.</p>
Specific target organ toxicity (STOT) - single exposure	<p>Based on the available criteria for the inclusion of substances, they are not met.</p>
Specific target organ toxicity (STOT) - repeated exposure	<p>The silica fume of MICROXIL and MICROXIL+ is not toxic after repeated doses.</p> <p>Oral toxicity of MICROXIL/ MICROXIL+ : In repeated dose toxicity tests, synthetic amorphous silica was shown to be virtually non-toxic. In this context, MICROXIL/ MICROXIL+ he considers it to be a substance resembling synthetic amorphous silica .</p> <p>Toxicity of silica fume MICROXIL and MICROXIL+ by the skin route: NOAEL >= 10,000 mg/kg</p> <p>Toxicity of MICROXIL and MICROXIL+ silica fume by inhalation: The results of studies of workers in the silicon, ferrosilicon and amorphous silica production industry have shown a higher incidence of COPD and a decrease in lung performance, which is, however, generally attributed to work in a dusty environment.</p> <p>Value used for CSA (inhalation): NOAEC: 1.3 mg/m³</p> <p>Given that inhaled particles can reduce reversible effects on the lungs at a dose level of approximately 5 mg/m³ , in the case of marketable silica fume MICROXIL and MICROXIL+, it is likely that these effects are more likely only at more than 20 times the higher dose. which means its level ≥ 100 mg/ m³ . Commercial MICROXIL therefore, it does not meet the requirements for inclusion. Levels of respirable crystalline silica are well below the 1% concentration limit by weight, so no classification is also proposed for this substance. The presence of silicon carbide fibers has not been confirmed in MICROXIL . Other impurity elements that are present in the fabric in a concentration above 1% and that can be administered from MICROXIL are not included in the group of toxic substances after a repeated dose and are not even suitable for considering the inclusion of MICROXIL in the given group.</p> <p>Classification Silica fume MICROXIL and MICROXIL+ within repeat dose toxicity is not guaranteed.</p>
Risk of aspiration	<p>Lack of data.</p>

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12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

12.1.1 Acute and chronic toxicity to fish

Short-term toxicity: LC 50 (96 h) for freshwater fish: 100 mg/l (OECD 203)
[MICROXIL/MICROXIL+]

Long-term toxicity: This information is not available. Due to the known physical and chemical properties, the absence of acute toxic effects, as well as the considerable distribution of silicon and silicates in nature, the poorly soluble silica fume MICROXIL and MICROXIL+ are not expected to exhibit any toxic effects at low concentrations. High concentration in the environment that, in general, there are likely to be common chronic effects on fish at their natural values found in the environment.

12.1.2 Acute and chronic toxicity for aquatic invertebrates

Short-term toxicity: EC 50 /LC 50 (24 h) for freshwater invertebrates: 1,000 mg (OECD 202)
(amorphous silicon dioxide)

Long-term toxicity: EC 50 (21 d) not known, test (OECD 211) in progress

12.1.3 Acute and chronic toxicity to aquatic plants

EC 50 /LC 50 (72 h) for freshwater algae: 250 mg/l (OECD 201) (silica)

EC 50 /LC 50 (72 h) for seaweed: 1,000 mg/t (ISO 10253) [MICROXIL/MICROXIL+]

EC 10 /LC 10 or NOEC for freshwater algae: 228 mg/l (OECD 201) (silica)

EC 10 /LC 10 or NOEC for seaweed: 323 mg/l (OECD 201) (soluble silica salt)

12.1.4 Acute and chronic toxicity for sedimentary organisms

Long-term toxicity: EC 50 /LC 50 for freshwater sedimentary organisms: 50,000 mg/kg dry weight
[MICROXIL/MICROXIL+]

EC 10 /LC 10 or NOEC for freshwater sedimentary organisms 49 mg/kg dry weight

12.1.5 Acute and chronic toxicity for soil macro-organisms

It is believed that the toxicity of MICROXIL and MICROXIL+ silica fume on terrestrial soil, macroorganisms are low, as soil-dwelling animals adapt well to the presence of MICROXIL in the soil and pore-filling water. Based on existing information on the exposure and effects of MICROXIL/MICROXIL+, there is currently no need to use targeted ecotoxicological testing of silica fume (high quality) or silicon (element) in soil.

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12.1.6 Acute and chronic toxicity for terrestrial plants

The toxicity of MICROXIL and MICROXIL+ to terrestrial plants is believed to be low as plants adapt well to the presence of silica in soil and pore-filling water. Based on existing information on the exposure and effects of silica fume MICROXIL and MICROXIL+, there is currently no need to use targeted ecotoxicological testing of silicates.

12.1.7 Acute and chronic toxicity for soil microorganisms

The toxicity of MICROXIL and MICROXIL+ silica fume to soil microorganisms is believed to be low, silica being present in most soils and pore-filling waters. Based on the existing information on exposures and effects and the CSA assessment, there is currently no need to use targeted substance testing.

12.1.8 Acute and chronic toxicity for aquatic microorganisms

The test substance is a bulk material that is poorly soluble in water, and the recommended standard study is not technically very suitable for this type of material. No amount of information is available to derive a reliable toxicity test based on PNEC values for MICROXIL/MICROXIL+.

12.1.9 Acute and chronic toxicity to birds

The toxicity of MICROXIL and MICROXIL+ to birds is believed to be low, as silica and its compounds are present in all types of natural soil, habitats and also in their food. Based on existing information on exposures and effects, there is currently no need to conduct targeted ecotoxicological testing of MICROXIL).

12.1.10 General conclusion

These conclusions apply to the high-quality MICROXIL and MICROXIL+ silicon drift produced by our company. In the case of heavy metals and organic impurities coming in its inferior qualities, they can have significant effects on the soil, and for these impurities the cross-reference method can be used.

12.2 Mobility

MICROXIL and MICROXIL+ silica fume is a perfectly non-volatile substance in its powder form and solid state. MICROXIL is a relatively poorly soluble substance in water with an acidic, neutral or slightly alkaline pH (< 1,000 mg/l). In unsaturated solutions (< 100 mg/l), silica fume MICROXIL and MICROXIL+ is present in the form of dissolved silicon hydroxide ($\text{Si}(\text{OH})_4$) and in more concentrated solutions as a dimer, trimer, colloidal solution or in the form of colloidal clusters of different sizes or in the form piece of insoluble matter. It is known that the soluble substance $\text{Si}(\text{OH})_4$ is relatively mobile in the soil. Adsorption of dissolved silica fume MICROXIL and MICROXIL+ into the inorganic part of the soil is generally not strong and into the soil organic matter is weak or almost negligible. The silica fume of MICROXIL and MICROXIL+ does not have a significant ability to bioconcentrate, it is not bioaccumulative.

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12.3 Permanence and degradability

It is not established for inorganic substances.

12.4 Bioaccumulative potential

Silica as the main component of MICROXIL silica fume, MICROXIL+ is present in almost every aquatic or terrestrial environment. Measured silicon concentrations in habitats are available for different systems. These observations did not demonstrate the desired tendency or only Determine the natural tendency for dissolved or undissolved silica fume MICROXIL and MICROXIL+ to bioaccumulate in aquatic and terrestrial animal species. Sufficient evidence shows that the bioaccumulation of MICROXIL is not for the environment or further bioaccumulation studies MICROXIL are not necessary.

12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for classification as a PBT or vPvB substance.

12.6 Other adverse effects

No other adverse effects were detected.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal of MICROXIL/MICROXIL+ must be in accordance with local and national legislation. The disposal of the unused product consists in its placement in a non-hazardous waste landfill.

If this product becomes waste, it must be disposed of like other catal waste . no. 10 08 16.

14. TRANSPORT INFORMATION

MICROXIL is not classified as dangerous in terms of ADR (road transport), RID (rail transport), IMDG (sea transport) and ICAO-TI/IATA-DGR (air transport).

14.1 Special preventive measures for the user

Avoid contact with water during transport. During normal transport, rail or road transport, MICROXIL is transported in bulk in the transport tanks or in the closed transport containers. Packed in the closed big bags or in the other agreed closed and impermeable packaging, it could also be transported in the uncovered vehicles.

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15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legal regulations concerning the substance

GHS - UN Globally Harmonized System of Classification and Labeling of Chemical Substances (GHS):

According to Chapter 1.5.2 of the UN Globally Harmonized System of Classification and Labeling of Chemical Substances (GHS), a safety data sheet (SDS) is required only for substances and mixtures that meet the harmonized criteria for endangering safety, health and the environment. This product does not meet these criteria.

EU CLP - CLP Regulation on classification, labeling and packaging of chemical substances and mixtures:

According to Article 59 par. 2 letters b) EC no. 1272/2008 (CLP), amending Article 31 par. 1 of the REACH regulation, safety data sheets (SDS) must be required only for substances and mixtures/special preparations that meet the criteria for endangering safety, health and the environment. Since this product does not meet the given criteria, a safety data sheet according to EC 453/2010 does not need to be issued. To provide information related to safety and health and environmental protection, product safety information will be provided instead.

EU REACH - Registration, evaluation and authorization of chemical substances:

According to Article 31(7) of the REACH Regulation, exposure scenarios from the Chemical Safety Report (CSR) are required as an annex to the safety data sheet. However, according to the REACH regulation Annex I, part 0. (Introduction), subsection 0.6. no. 4 and 5 such exposure scenarios are simply only for substances and mixtures that are classified as dangerous. As this product is not classified as dangerous in the sense of CLP, the exposure scenarios are given." A chemical safety assessment has been carried out for the substance . According to the REACH regulation, this substance requires authorization.

There are no special regulations, restrictions and prohibitions.

16. FURTHER INFORMATION

These data are based on our current knowledge, but do not represent any guarantee of certain special properties of the products and do not establish any legally binding contractual relationships.

16.1 Recommendations

Do not inhale the dust.

Wear suitable protective clothes, gloves and eye/face products.

In case of insufficient ventilation, use a suitable respirator.

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16.2 List of abbreviations used

AF:	rating factor
Comet assay:	testing single cells for DNA damage by electrophoresis
COPD:	chronic obstructive pulmonary disease
DNEL:	derived no effect limit
EC 50 :	mean concentration value
LC 50 :	median value of the lethal concentration
LD 50 :	median lethal dose value
NOAEC:	no observed adverse effect concentration
NOAEL:	no observed adverse effect value
NOEC:	no observed effect concentration
OEL:	workplace exposure limit value
PBT:	persistent, bioaccumulative and toxic substances
PNEC:	predicted no-effect concentration
T/D test:	solubility test of substances
vPvB:	very persistent, very bioaccumulative substances

16.3 Key Resources

This Safety Data Sheet was prepared according to:

- Reports on chemical safety.
- TL-VP-MX_01-00

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ANNEX

Table 1. Ways of using substances or mixture (Use by workers in industry)

IU no.	Name of Identified Use (IU)	The substance supplied for the given use	Description of use
1	Production of refractory materials: bricks, tiles, utensils for serving food, medical ceramics, clay pipes used in production processes with increased requirements, refractory concrete, special types of concrete / production of non-shaped aluminum- silicate refractory materials, with the exception of silica fume for concrete, admixture II. according to EN 13263	as such (substance in itself) in mixtures	<p>Process category (PROC): PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 19, 21, 23, 24</p> <p>Environmental release category (ERC): ERC 3, 5</p> <p>Sector of use (SU): SUN 13 SU 0: Other: NACE code: C23.20</p> <p>Is the subsequent life relevant for the given use?: yes</p> <p>Product category (AC): AC 2</p>
2	SiC) additive for the production of firing furnace accessories	as such (substance in itself) in mixtures	<p>Process category (PROC): PROC 4, 5, 8a, 9, 26</p> <p>Category of chemical products (PC): PC 0: Other: Preparation of construction and structures</p> <p>Environmental release category (ERC): ERC 3, 5</p> <p>Sector of use (SU): SUN 13 SU 0: Other: NACE code: C23.20</p> <p>Is the subsequent life relevant for the given use?: yes</p> <p>Product category (AC): AC 4</p>
3	Protection of surfaces against wear	as such (substance in itself) in mixtures	<p>Process category (PROC): PROC 3, 4, 5, 7, 9, 10, 11, 19, 21, 23, 24</p> <p>Category of chemical products (PC): PC 9a, 9b</p> <p>Environmental release category (ERC): ERC 3, 5</p> <p>Sector of use (SU): SUN 13</p> <p>Is the subsequent life relevant for the given use?: no</p>
4	Production of special types of ceramics	as such (substance in itself)	<p>Process category (PROC): PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 19, 21, 23, 24</p> <p>Category of chemical products (PC): PC 0: Other: Preparation of construction and structures</p> <p>Environmental release category (ERC): ERC 3, 5</p>

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			<p>Sector of use (SU): SUN 13 SU 0: Other: NACE code: C23.44</p> <p>Is the subsequent life relevant for the given use? yes</p> <p>Product category (AC): AC 0: Other: Building products and material for outdoor use: material for building walls, material for surface treatment of roadways, ceramic, metal, plastic and wooden building material, insulation material.</p>
5	Cement industry: raw materials for the production of clinker	as such (substance in itself)	<p>Process category (PROC): PROC 22</p> <p>Environmental release category (ERC): ERC 3, 5</p> <p>Sector of use (SU): SUN 13 SU 0: Other: NACE code: C23</p> <p>Is the subsequent life relevant for the given use? yes</p>
6	Production of drift/clinker/... including preparation: cement, hydraulic binder, low-strength material with controlled, concrete (ready mix or prefabricated), mortar, injection mortar, with the exception of siliceous drift for concrete, type II admixture. According to EN 13263	as such (substance in itself)	<p>Process category (PROC): PROC 3, 4, 5, 8a, 8b, 9</p> <p>Category of chemical products (PC): PC 0: Other: Preparation of construction and structures</p> <p>Environmental release category (ERC): ERC 3, 5</p> <p>Sector of use (SU): SUN 13 SU 0: Other: NACE code: C23</p> <p>Is the subsequent life relevant for the given use? yes</p> <p>Product category (AC): AC 0: Other: Building products and material for outdoor use: material for building walls, material for surface treatment of roadways, ceramic, metal, plastic and wooden building material, insulation material.</p>
7	Putty additive for filling defects in wood, plaster and walls and glass production	as such (substance in itself)	<p>Process category (PROC): PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 14, 19, 23</p> <p>Category of chemical products (PC): PC 0: Other: Preparation of construction and structures</p> <p>Environmental release category (ERC): ERC 3, 5</p> <p>Sector of use (SU): SUN 13 SU 0: Other: NACE code: C23.61 and C23.1</p> <p>Is the subsequent life relevant for the given use? yes</p> <p>Product category (AC): AC 4 AC 0: Other: Building products and material for outdoor use: material for building walls, material for surface treatment of roadways, ceramic, metal, plastic and wooden building material, insulation material.</p>
8	Production of products for drilling shafts	as such (substance in itself)	<p>Process category (PROC): PROC 1, 3, 8a, 8b</p> <p>Environmental release category (ERC): ERC 3, 5</p> <p>Sector of use (SU): SUN 13</p> <p>Is the subsequent life relevant for the given use? yes</p>

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9	Production of inorganic paints	as such (substance in itself) in mixtures	<p>Process category (PROC): PROC 2, 3</p> <p>Category of chemical products (PC): PC 9a, 9b, 18</p> <p>Environmental release category (ERC): ERC 1</p> <p>Sector of use (SU): SUN 9 SU 0: Other: NACE code: C20.12 and C20.30</p> <p>Is the subsequent life relevant for the given use? no</p> <p>Product category (AC): AC 13</p>
10	Mixing component of monolithic refractory materials	as such (substance in itself)	<p>Process category (PROC): PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 19</p> <p>Environmental release category (ERC): ERC 1</p> <p>Sector of use (SU): SUN 9</p> <p>Is the subsequent life relevant for the given use? yes</p>
11	Production of process aids used in the chemical industry	as such (substance in itself)	<p>Process category (PROC): PROC 2</p> <p>Category of chemical products (PC): PC 20</p> <p>Environmental release category (ERC): ERC 2</p> <p>Sector of use (SU): SUN 9</p> <p>Is the subsequent life relevant for the given use? no</p>
12	Fertilizers: siliceous fertilizers in agriculture and anti-hardening agent used in artificial fertilizers	as such (substance in itself)	<p>Process category (PROC): PROC 5, 8b, 11, 19, 26</p> <p>Category of chemical products (PC): PC 12</p> <p>Environmental release category (ERC): ERC 10b</p> <p>Sector of use (SU): NO 1</p> <p>Is the subsequent life relevant for the given use? yes</p>
13	Production of seals, sealing inserts and materials and seals; rubber materials; and rubber materials with a coating and with chemical paints	as such (substance in itself)	<p>Process category (PROC): PROC 1, 2, 3, 5, 6, 7, 8a, 8b, 9, 10, 13, 14, 15, 19, 23</p> <p>Category of chemical products (PC): PC 32</p> <p>Environmental release category (ERC): ERC 3, 6d</p> <p>Sector of use (SU): SUN 11 SU 0: Other: NACE code: C22.19 and C20.30</p> <p>Is the subsequent life relevant for the given use? yes</p> <p>Product category (AC): AC 1, 2, 3, 5, 8, 10 AC 0: Other: construction products</p>
14	Production of elastic polymers, thermoplastics and coated plastics with chemical dyes	as such (substance in itself)	<p>Process category (PROC): PROC 1, 2, 3, 5, 6, 7, 8a, 8b, 9, 10, 13, 14, 15, 19, 23</p> <p>Category of chemical products (PC): PC 32</p> <p>Environmental release category (ERC): ERC 3, 6c</p> <p>Sector of use (SU): SUN 12 SU 0: Other: NACE code: 22,20 and C20,30</p>

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			<p>Is the subsequent life relevant for the given use? yes</p> <p>Product category (AC): AC 1, 2, 3, 5, 8, 10 AC 0: Other: construction products</p>
15	Use of substances as an intermediate element	as such (substance in itself)	<p>Process category (PROC): PROC 1</p> <p>Category of chemical products (PC): PC 19</p> <p>Environmental release category (ERC): ERC 6a</p> <p>Sector of use (SU): SUN 9</p> <p>Is the subsequent life relevant for the given use? no</p>
16	Production of putties, glues and adhesives	as such (substance in itself) in mixtures	<p>Process category (PROC): PROC 3, 4, 5, 7, 8b, 9, 10, 11, 19</p> <p>Category of chemical products (PC): PC 1, 9a, 9b</p> <p>Environmental release category (ERC): ERC 2</p> <p>Sector of use (SU):</p> <p>Is the subsequent life relevant for the given use? yes</p> <p>Product category (AC):</p>
17	A component in the mixing of refractory materials	as such (substance in itself)	<p>Process category (PROC): PROC 4, 5, 8a, 9, 14, 19, 21, 23, 24, 26</p> <p>Environmental release category (ERC): ERC 5</p> <p>Sector of use (SU):</p> <p>Is the subsequent life relevant for the given use? yes</p>
18	Production of thinners, working powders, cleaning agents and plaster	as such (substance in itself)	<p>Process category (PROC): PROC 2, 3, 5, 8a, 9, 10</p> <p>Category of chemical products (PC): PC 35, 9a, 9b</p> <p>Environmental release category (ERC): ERC 2</p> <p>Sector of use (SU):</p> <p>Is the subsequent life relevant for the given use? no</p>
19	Use of professional workers in construction and construction works (e.g. chemical substance used in construction; cement, hydraulic binder, low-strength material with controlled employees, e.g.; strengthening and melioration of soil; mineral filler for asphalt pavements and	as such (substance in itself)	<p>Process category (PROC): PROC 1, 2, 3, 5, 7, 8a, 8b, 9, 10, 11, 13, 15, 19, 26</p> <p>Category of chemical products (PC): PC 9b PC 0: Other: road construction (asphalt and asphalt products)</p> <p>Environmental release category (ERC): ERC 10a</p> <p>Sector of use (SU):</p> <p>Is the subsequent life relevant for the given use? yes</p>

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	asphalt products; sprayed concrete in tunnels) , with the exception of siliceous drift in concrete, type II admixture. According to EN 13263		Product category (AC):
20	Production of basic metals, including alloys and alloys with plating and with chemical colors	as such (substance in itself)	Process category (PROC): PROC 1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 15, 19, 22, 26 Category of chemical products (PC): PC 7 Environmental release category (ERC): ERC 5 Sector of use (SU): Is the subsequent life relevant for the given use? yes Product category (AC):
21	Professional use of glues and adhesives	in mixtures	Process category (PROC): PROC 8a, 8b, 9, 11, 13, 19 Category of chemical products (PC): PC 1 Environmental release category (ERC): ERC 8f Sector of use (SU): Is the subsequent life relevant for the given use?: yes
22	Consumer use of glues and adhesives	in mixtures	Category of chemical products (PC): PC 1 Environmental release category (ERC): ERC 8f Is the subsequent life relevant for the given use?: yes

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