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

1.1. Product identifier

Product form : Substance
 Trade name/designation : Zircon silicate; Zircon sand; Zircon flour
 Chemical name : Zr[SiO₄]
 EC No : 239-019-6
 CAS No : 14940-68-2
 Synonyms : Kreutzonit, Zircon opacifier, Zirco-White
 Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial uses, Professional uses

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Helmut Kreutz GmbH
 Helmut-Kreutz-Str., 35708 Haiger
 T +49(0)2773-9441-0 - F +49(0)2773-9441-60
info@kreutz-mahlwerke.de - www.kreutz-mahlwerke.de

1.4. Emergency telephone number

Emergency number : 7.30 – 16.30 h. (Friday 7.30 – 15.00 h.)
 Only available during office hours.

Country	Official advisory body	Address	Emergency number
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 1 809 21 66 (public, 8am - 10pm, 7/7) +353 01 809 2566 (Professionals, 24/7)
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours, healthcare professionals only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Not applicable.

2.3. Other hazards

Other hazards : PBT/vPvB data. Not applicable. Zircon Silicate is a naturally occurring radioactive composition of the uranium and thorium series. The concentrations of these elements are very limited. Typical specific activities for Th-232 are 0.5 – 1.2 Bq/g

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and for U-238 1.8 – 4.5 Bq/g, each in the radioactive equilibrium with the radioactive decay products.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance name : Zircon Silicate
CAS No : 14940-68-2
EC No : 239-019-6

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Zirconium silicate	(CAS No) 14940-68-2 (EC No) 239-019-6	100	Not classified

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

Additional advice : First aider: Pay attention to self-protection. See also section 8. Show this safety data sheet to the doctor in attendance. Treat symptomatically. In case of doubt or persistent symptoms, consult always a physician.

Inhalation : Provide fresh air. Keep at rest. In case of doubt or persistent symptoms, consult always a physician.

Skin contact : No adverse effects are expected. Remove mechanically (e.g. dab away using wadding or cellulose material) then thoroughly wash the affected skin with a mild cleansing agent and water. Call a physician if irritation develops or persists.

Eyes contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician if irritation develops or persists.

On ingestion : Never give anything by mouth to an unconscious person or a person with cramps. If large quantities of this material are swallowed, call a physician immediately.

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

Inhalation : May cause respiratory irritation.

Skin contact : May be irritating.

Eyes contact : Mechanical irritation of the eyes is possible.

Ingestion : No adverse effects are expected. May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

4.3. Indication of any immediate medical attention and special treatment needed

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, Alcohol resistant foam, Carbon dioxide, Dry extinguishing powder.

Unsuitable extinguishing media : none.

5.2. Special hazards arising from the substance or mixture

Specific hazards : Do not allow to enter into surface water or drains. Dispose of contaminated materials in accordance with current regulations.

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5.3. Advice for firefighters

Firefighting instructions	: Evacuate personnel to a safe area. Special protective equipment for firefighters. In case of fire: Wear self-contained breathing apparatus.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.
Other information	: Do not allow run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Concerning personal protective equipment to use, see section 8.
For non-emergency personnel	: Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Measures in case of dust release	: Do not breathe dust.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
For emergency responders	: Ensure procedures and training for emergency decontamination and disposal are in place.

6.2. Environmental precautions

Not applicable.

6.3. Methods and material for containment and cleaning up

For containment	: Stop leak if safe to do so. Knock down/dilute dust cloud with water spray.
Methods for cleaning up	: Stop leak if safe to do so. Knock down/dilute dust cloud with water spray. Keep wetted with water. Collect in closed and suitable containers for disposal. Dispose of waste product or used containers according to local regulations.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Disposal: see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing. Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time). Reference to other sections: 10.
Hygiene measures	: Keep good industrial hygiene. Wash hands and face before breaks and immediately after handling of the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Take off contaminated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Avoid dust formation. Keep container tightly closed and dry. Do not store near or with any of the incompatible materials listed in section 10.
Storage conditions	: Store in a dry place. Store in a closed container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Incompatible substances or mixtures	: For further information, refer to section 10 : "Stability and Reactivity".
Incompatible materials	: For further information, refer to section 10 : "Stability and Reactivity".
Heat and ignition sources	: Keep away from naked flames/heat.

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7.3. Specific end use(s)

Not applicable.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Zirconium silicate (14940-68-2)		
Lithuania	IPRV (mg/m ³)	6 mg/m ³

Additional information : Atmospheric monitoring at regular intervals. Personal monitoring

8.2. Exposure controls

Engineering measure(s)	: Provide adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Avoid dust formation. !CIRCULAR REFERENCE!. Organisational measures to prevent /limit releases, dispersion and exposure. See also section 7.
Personal protective equipment	: The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hand protection	: Not required for normal conditions of use. Impervious gloves . The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.
Eye protection	: Safety glasses with side-shields . tightly fitting safety goggles (EN 166)
Body protection	: Wear suitable protective clothing
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Effective dust mask (EN 149). full face mask (DIN EN 136) (EN 136). Half-face mask (DIN EN 140) (EN 140). Filter type: P (EN 143)
Thermal hazard protection	: Not required for normal conditions of use. Use dedicated equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Colour	: Grey. brown. Cream.
Odour	: odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting / freezing point	: 2100 - 2300 °C
Freezing point	: Not applicable
Initial boiling point and boiling range	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not fulfilling criteria for hazard class "Flammable Solids".
Vapour pressure	: Not applicable
Vapour density	: No data available
Relative density	: No data available
Density	: 4,4 - 4,8 g/m ³

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Solubility	: No data available. Water: The substance is not soluble in water.
Partition coefficient n-octanol/water	: No data available
Kinematic viscosity	: No data available
Dynamic viscosity	: No data available
Explosive properties	: Not applicable. The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	: Not applicable.
Explosive limits	: Not applicable

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reference to other sections: 10.5.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Not applicable.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified (Based on available data, the classification criteria are not met.)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met.) pH: No data available
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met.) pH: No data available
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met.)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met.)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met.)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met.)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met.)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met.)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met.)
Other information	: Symptoms related to the physical, chemical and toxicological characteristics. Reference to other sections: 4.2.

SECTION 12: Ecological information

12.1. Toxicity

Environmental properties	: Ecological injuries are not known or expected under normal use.
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12.2. Persistence and degradability

Zircon silicate; Zircon sand; Zircon flour (14940-68-2)	
Persistence and degradability	Not applicable.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

Zircon silicate; Zircon sand; Zircon flour (14940-68-2)	
Ecology - soil	No data available.

12.5. Results of PBT and vPvB assessment

No data available

12.6. Other adverse effects

Additional information : No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Handle with care. Safe handling: see section 7. Handling and storage. Dispose of contaminated materials in accordance with current regulations. Refer to manufacturer/supplier for information on recovery/recycling. Collect and dispose of waste product at an authorised disposal facility. Do not allow to enter into surface water or drains.
Additional information	: Delivery to an approved waste disposal company. Dispose of contaminated materials in accordance with current regulations.
Further ecological information	: None.
European waste catalogue (2001/573/EC, 75/442/EEC, 91/689/EEC)	: Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
NA	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
NA	Not applicable	Not applicable	Not applicable	Not applicable
Transport document description				
UN NA NA				
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
Not applicable				

14.6. Special precautions for user

Special precautions for user : Not applicable

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- Overland transport

No data available

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

No data available

- Rail transport

No data available

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Zircon silicate; Zircon sand; Zircon flour is not on the REACH Candidate List

Zircon silicate; Zircon sand; Zircon flour is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) nwg, Non-hazardous to water

German storage class (LGK) : LGK 13 - Non-combustible solids

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

Waterbezwaarlijkheid : 11 - Weinig schadelijk voor in het water levende organismen (B)

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

15.2. Chemical safety assessment

This substance is exempted according to REACH Article 2(7) and Annex V.

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SECTION 16: Other information

Indication of changes:

Safety datasheet sections which have been updated : 1-16.

Abbreviations and acronyms:

	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods Code LEL = Lower Explosive Limit/Lower Explosion Limit UEL = Upper Explosion Limit/Upper Explosive Limit REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
	LD 50 = Median lethal dose
	N.O.S. = Not Otherwise Specified
	STEL = Short term exposure limit
	TLV = Threshold limits
	TWA = time weighted average
	WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)
	LC50 = Median lethal concentration
	EC50 = Median Effective Concentration
	persistent, bioaccumulating and toxic (PBT).
	vPvB = very persistent and very bioaccumulating

Sources of key data used to compile the : SDS Producer <http://esis.jrc.ec.europa.eu>.
datasheet

The contents and format of this SDS are in accordance with EEC Commission Directive 2015/830/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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