

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name **Zirconium silicate**
 Stock number: 30477
 CAS Number: 10101-52-7
 EC number: 233-252-7

1.2 Relevant identified uses of the substance

or mixture and uses advised against. No further relevant information available.
 Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Alfa Aesar GmbH & Co.KG
 A Johnson Matthey Company
 Zeppelinstr. 7b
 76185 Karlsruhe / Germany
 Tel: +49 (0) 721 84007 280
 Fax: +49 (0) 721 84007 300
 Email: tech@alfa.com
 www.alfa.com

Informing department:

Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
 Poison Information Center Mainz
 www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

Information concerning particular hazards

for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS07

Warning

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P321 Specific treatment (see on this label).

P405

Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements**2.3 Other hazards**

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

CAS# Designation:

10101-52-7 Zirconium silicate

Identification number(s):

233-252-7

EC number:

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

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
 Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

Seek medical treatment.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing agents

Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Silicon oxide

Metal oxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

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6.2 Environmental precautions:	Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil.	(Contd. of page 1)
6.3 Methods and material for containment and cleaning up:	Ensure adequate ventilation.	
Prevention of secondary hazards:	No special measures required.	
6.4 Reference to other sections	See Section 7 for information on safe handling See section 8 for information on personal protection equipment. See Section 13 for information on disposal.	

SECTION 7: Handling and storage

7.1 Precautions for safe handling	Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace.
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Information about protection against explosions and fires: The product is not flammable

7.2 Conditions for safe storage, including any incompatibilities

Storage Requirements to be met by storerooms and containers:	No special requirements.
Information about storage in one common storage facility:	Store away from oxidizing agents.

Further information about storage conditions: Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
No further relevant information available.

7.3 Specific end use(s)**SECTION 8: Exposure controls/personal protection**

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters**Components with critical values that require monitoring at the workplace:****10101-52-7 Zirconium silicate (100,0%)**

PEL (USA)	5 mg/m ³ as Zr
TLV (USA)	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr

Additional information: No data

8.2 Exposure controls**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.

Breathing equipment:**Protection of hands:**

Maintain an ergonomically appropriate working environment.
Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves**Penetration time of glove material****Eye protection:**

Impervious gloves

Not determined

Safety glasses

Face protection

Body protection:

Protective work clothing.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Powder
Colour:	White
Smell:	Odourless
Odour threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	2550 °C
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Inflammability (solid, gaseous)	Not determined.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Self-inflammability:	Not determined.

Critical values for explosion:

Lower:	Not determined
Upper:	Not determined
Steam pressure:	Not applicable.
Density at 20 °C	4,56 g/cm ³
Relative density	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.

Solubility in / Miscibility with

Water: Insoluble

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No information known.

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according to 1907/2006/EC, Article 31

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10.2 Chemical stability	Stable under recommended storage conditions.	(Contd. of page 2)
Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.	
10.3 Possibility of hazardous reactions	Reacts with strong oxidizing agents	
10.5 Incompatible materials:	Oxidizing agents	
10.6 Hazardous decomposition products:	Silicon oxide Metal oxide	

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute toxicity:	No effects known.
LD/LC50 values that are relevant for classification:	No data
Skin irritation or corrosion:	Causes skin irritation.
Eye irritation or corrosion:	Causes serious eye irritation.
Sensitization:	No sensitizing effect known.
Germ cell mutagenicity:	No effects known.
Carcinogenicity:	ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.
Reproductive toxicity:	No effects known.
Specific target organ system toxicity - repeated exposure:	No effects known.
Specific target organ system toxicity - single exposure:	May cause respiratory irritation.
Aspiration hazard:	No effects known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity	
Aquatic toxicity:	No further relevant information available.
12.2 Persistence and degradability	No further relevant information available.
12.3 Bioaccumulative potential	No further relevant information available.
12.4 Mobility in soil	No further relevant information available.
Additional ecological information:	
General notes:	Generally not hazardous for water. Avoid transfer into the environment.
12.5 Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
12.6 Other adverse effects	No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Recommendation	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number	
ADR, ADN, IMDG, IATA	Not applicable
14.2 UN proper shipping name	
ADR, ADN, IMDG, IATA	Not applicable
14.3 Transport hazard class(es)	
ADR, ADN, IMDG, IATA	
Class	Not applicable
Packing group	
ADR, IMDG, IATA	Not applicable
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	-

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
Australian Inventory of Chemical Substances	Substance is listed.
Standard for the Uniform Scheduling of Drugs and Poisons	Substance is not listed.
National regulations	
Information about limitation of use:	Employment restrictions concerning young persons must be observed. For use only by technically qualified individuals.
Water hazard class:	Generally not hazardous for water.
Other regulations, limitations and prohibitive regulations	
ELINCS (European List of Notified Chemical Substances)	Substance is not listed.
Substances of very high concern (SVHC) according to REACH, Article 57	Substance is not listed.
REACH - Pre-registered substances	Substance is listed.
15.2 Chemical safety assessment:	A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS:	Health, Safety and Environmental Department.
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DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

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Trade name **Zirconium silicate****Abbreviations and acronyms:**

(Contd. of page 3)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
GHS: Globally Harmonized 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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

DE/E