

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

Date Issued: 01/03/2007

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY / UNDERTAKING

Product name	Zirconium carbide, Nanopowder
Product code	NC-0013-SG
Supplier	IoLiTec Ionic Liquids Technologies GmbH Salzstrasse 184 D-74076 Heilbronn Germany
Telephone	+49 (0)7131 – 898390
Fax	+49 (0)7131 – 89839109
Emergency telephone	+49 (0)179 – 5322578
Email	msds@iolitec.de

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (67/548/EEC or 1999/45/EC)

Highly flammable, Harmful by inhalation, in contact with skin and if swallowed.

Classification (REGULATION (EC) No 1272/2008)

Flammable solids, Category 1, H228

Acute toxicity (dermal), Category 4, H312

Acute toxicity (inhalation), Category 4, H332

Acute toxicity (oral), Category 4, H302

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

Date Issued: 01/03/2007

2.2 Label elements

Labelling (67/548/EEC or 1999/45/EC)

Hazard description:

Label for supply



Xn Harmful

Information pertaining to particular dangers for man and environment

Risk phrases

R11: Highly flammable.

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

Safety phrases

S16: Keep away from sources of ignition - No smoking.

S27: Take off immediately all contaminated clothing.

S33: Take precautionary measures against static discharges.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

Labelling (REGULATION (EC) No 1272/2008, GHS)

Hazard statements



Danger

H-phrases

H228: Flammable solid.

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H332: Harmful if inhaled.

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

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Precautionary statements

P-phrases

P210: Keep away from heat/sparks/open flames/hot surfaces . - No smoking.

P240: Ground/bond container and receiving equipment.

P280: Wear protectic gloves/protective clothing/eye protection/face protection.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient name	Zirconium carbide, 97%
CAS No.	12070-14-3
Empirical Formula	ZrC
Molecular weight	103.23 amu

4 FIRST AID MEASURES

General	Contaminated clothing should be removed and washed before being reused.
Inhalation	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen.
Ingestion	Immediately rinse mouth and provide fresh air. Do not induce vomiting. Get medical attention immediately.
Skin	Wash the skin immediately with soap and water.

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

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Eyes	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.
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5 FIRE FIGHTING MEASURES

Extinguishing media	Water spray, carbon dioxide, dry chemical powder, or appropriate foam.
Special fire fighting procedures	No special procedures required.
Unusual fire & explosion hazards	Emission of toxic fumes under fire conditions.
Protective measures in fire	Wear self-contained breathing apparatus as combustion may produce hazardous fumes.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions during spill	Wear protective clothing and protective mask. Avoid inhalation of powder, fume and vapor as well as skin or eye contact.
Spill cleanup methods	Avoid contact with skin or inhalation of spillage, dust or vapor, Avoid dust formation. Collect and reclaim or dispose in sealed containers in license waste. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

Date Issued: 01/03/2007

7 HANDLING AND STORAGE

Handling precautions

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage precautions

Keep tightly closed. Store in a cool dry place.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Protective equipment

Safety goggles. Chemical resistant gloves. Protective clothing. Protective mask when high concentrations are present.

Process control measures

Provide eyewash station and safety shower. Use engineering controls to reduce air contamination to permissible exposure levels.

Ventilation

Provide adequate general and local exhaust ventilation.

Respirators

Use high efficiency particulate respirator with appropriate filter.

Other protection

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Exposure limits

N/A

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

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9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Odor/taste	N/A
PH	N/A
Boiling Point	N/A
Melting Point	2700 °C
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	6.73 g/m ³
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Solubility in Water	N/A

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

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10 STABILITY AND REACTIVITY

Stability	No particular stability concerns.
Conditions to avoid	Strong oxidizing agents.
Hazardous Decomposition	Hazardous decomposition products: not known.

11 TOXICOLOGICAL INFORMATION

Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Skin	May cause irritation.
Eyes	May cause irritation.

12 ECOLOGICAL INFORMATION

No data available

13 DISPOSAL CONSIDERATIONS

Disposal method	Contact specialist disposal companies. Dispose of in accordance with Local Authority
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Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

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requirements. Recover and reclaim or recycle, if practical.

14 TRANSPORT INFORMATION

Land transport RID/ADR

UN#: 3178

Class: 4.1

Packing group: II

Proper Shipping Name: Flammable solid, inorganic, n.o.s. (zirconium carbide)

Maritime transport IMDG

UN#: 3178

Class: 4.1

Packing group: II

Proper Shipping Name: Flammable solid, inorganic, n.o.s. (zirconium carbide)

Marine Pollutant: no

Air transport IATA

UN#: 3178

Class: 4.1

Packing group: II

Proper Shipping Name: Flammable solid, inorganic, n.o.s. (zirconium carbide)

15 REGULATORY INFORMATION

In accordance with local and national regulations.

Material Safety Data Sheet

Zirconium carbide

Revision Date: 01/12/2010

Date Issued: 01/03/2007

16 OTHER INFORMATION

DISCLAIMER

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