

Material Safety Data Sheet

Zirconium(IV)oxide

Revision Date: 02/04/2009

Date Issued: 01/03/2007

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

Product name Zirconium(IV)oxide, Nanopowder
Product code NO-0013-HP
Supplier IoLiTec
Ionic Liquids Technologies GmbH
Ferdinand-Porsche-Straße 5/1
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Germany
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2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient name Zirconium(IV)oxide, 99 %
CAS No. 1314-24-4
Empirical Formula ZrO₂
Molecular weight 123.22 amu

3 HAZARDS IDENTIFICATION

Potential health effects

Immediate concerns WARNING! Can cause eye and skin irritation.
Avoid contact with skin, eyes and clothing.
Wear protective goggles and gloves when

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handling this material. Wash thoroughly after handling.

Eyes Causes irritation.
Skin Causes irritation.
Inhalation Causes irritation.

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.

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.

5 FIRE FIGHTING MEASURES

Extinguishing media Suitable: Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.

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Special fire fighting procedures	No special procedures required.
Unusual fire & explosion hazards	Emission of toxic fumes, capability of creating a dust explosion
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 avoid inhalation of powder, fume and vapor as well as skin or eye contact.
Precautions to protect environment	Avoid washing into water courses. Avoid contaminating public drains or water supply.
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.

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 closed.

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8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Protective equipment	Safety goggles. Chemical resident gloves. Protective clothing. Protective mask.
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	

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Odor/taste	No characteristic odor.
PH	N/A
Boiling Point	4,300 °C
Melting Point	2,600 °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	5.9 g/cm ³

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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	insoluble

10 STABILITY AND REACTIVITY

Stability	No particular stability concerns.
Conditions to avoid	Strong acids and oxidizing agents.
Hazardous Decomposition	
Products	Consistency of decomposition products unknown.

11 TOXICOLOGICAL INFORMATION

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

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Eyes May cause irritation and allergic reaction.

12 ECOLOGICAL INFORMATION

13 DISPOSAL CONSIDERATIONS

Disposal method Contact specialist disposal companies. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.

14 TRANSPORT INFORMATION

General	Not classified as dangerous for transport purposes.
UN No.	0
Road transport notes	Not classified as dangerous for road transport.
Rail transport notes	Not classified as dangerous for rail transport.
Sea transport notes	Not classified as dangerous for sea transport.
Air transport notes	Not classified as dangerous for air transport.

15 REGULATORY INFORMATION

Label for supply	Xi, Irritant.
Risk phrases	
R: 36/37/38	Irritating to eyes, respiratory system and skin.

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Safety phrases

S: 26-36 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

16 OTHER INFORMATION

DISCLAIMER

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