

# Material Safety Data Sheet

## Zinc Nanopowder, 35 nm

Revision Date: 02/04/2009

Date Issued: 11/24/2006

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

<b>Product name</b>	Zinc
<b>Product code</b>	NM-0025-UP
<b>Supplier</b>	IoLiTec Ionic Liquids Technologies GmbH Ferdinand-Porsche-Straße 5/1 D-79211 Denzlingen Germany
<b>Telephone</b>	+49 (0)7666 - 9129572
<b>Fax</b>	+49 (0)7666 - 9129345
<b>Emergency telephone</b>	+49 (0)179-5322578
<b>Email</b>	msds@iolitec.de

### 2 HAZARDS IDENTIFICATION

F Highly flammable  
R15, R17 flammable in contact with water and air

### 3 COMPOSITION / INFORMATION ON INGREDIENTS

<b>Ingredient name</b>	Zinc
<b>Empirical Formula</b>	Zn (partially passivated w/[O] ~10%)
<b>CAS No.</b>	7440-66-6

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### 4 FIRST AID MEASURES

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

<b>Extinguishing media</b>	Extinguishing powder fro metal powders. DO NOT USE WATER. Limestone powder, dry sand.
<b>Unsuitable extinguishing agents</b>	Water
<b>Special fire fighting procedures</b>	-
<b>Unusual fire &amp; explosion hazards</b>	-
<b>Protective measures in fire</b>	Wear self-contained breathing apparatus as combustion may produce hazardous fumes.

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### 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions during spill** Wear protective clothing and avoid inhalation as well as skin or eye contact. Keep away from ignition sources.

**Precautions to protect environment** Do not wash into water courses. Do not allow this material to be released to the environment without proper governmental permits.

**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

**Usage precautions** Keep away from heat, sparks and open flame. Do not use in confined spaces without adequate ventilation.

**Storage precautions** Store in a tightly closed container in a cool, dry, well ventilated area.

**Storage criteria** Chemical storage.  
Do not store together with oxidizing salts, acids. Store away from air/water.

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### 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Protective equipment</b>	Safety goggles. Chemical resistant gloves. Protective clothing. Respirator when high concentrations are present.
<b>Process control measures</b>	Provide eyewash station and safety shower.
<b>Ventilation</b>	Provide adequate general and local exhaust ventilation.

### 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Powder
<b>Color</b>	Black gray
<b>Odor/taste</b>	No characteristic odor.
<b>Boiling Point</b>	907 °C
<b>Melting Point</b>	419.5 °C
<b>Flash Point</b>	N/A
<b>Flammability</b>	Highly Flammable Contact with water liberates extremely flammable gases.
<b>Autoignition Temp</b>	Spontaneously flammable in air
<b>Oxidizing Properties</b>	N/A
<b>Explosive Properties</b>	N/A
<b>Explosion Limits</b>	N/A
<b>Vapor Pressure</b>	N/A
<b>SG/Density</b>	7.133 g/cm <sup>3</sup> at 20 °C
<b>Partition Coefficient</b>	N/A

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<b>Viscosity</b>	N/A
<b>Vapor Density</b>	N/A
<b>Saturated Vapor Conc.</b>	N/A
<b>Evaporation Rate</b>	N/A
<b>Bulk Density</b>	N/A
<b>Decomposition Temp.</b>	N/A
<b>Solvent Content</b>	N/A
<b>Water Content</b>	N/A
<b>Surface Tension</b>	N/A
<b>Conductivity</b>	N/A
<b>Solubility in Water</b>	Insoluble

### 10 STABILITY AND REACTIVITY

<b>Stability</b>	No particular stability concerns.
<b>Conditions to avoid</b>	Contact with water releases flammable gases

### 11 TOXICOLOGICAL INFORMATION

<b>Ingestion</b>	irritating effect
<b>Skin</b>	irritating effect
<b>Eyes</b>	irritating effect
<b>Other information</b>	N/A

### 12 ECOLOGICAL INFORMATION

<b>Environmental hazards</b>	Do not allow material to be released to the environment without proper governmental permits.
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### 13 DISPOSAL CONSIDERATIONS

#### Disposal method

Contact specialist disposal companies.  
Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.

### 14 TRANSPORT INFORMATION

#### Land transport RID/ADR

UN#: 1436  
Class: 4.3  
Packing group: II  
Item: 14 b  
Danger Code (Kemler): 423

Proper Shipping Name: Zinc powder

#### Maritime transport IMDG

UN#: 1436  
Class: 4.3  
Packing group: II

Proper Shipping Name: Zinc powder

#### Air transport IATA

UN#: 1436  
Class: 4.3  
Packing group: II

Proper Shipping Name: Zinc powder

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### 15 REGULATORY INFORMATION

**Label for supply**

F Highly Flammable

**Risk phrases**

R15 contact with water liberates extremely flammable gases

R17 spontaneously flammable in air

**Safety phrases**

S7-8 Keep container tightly closed and dry

S43 In case of fire, use extinguishing powder.

Never use water.

### 16 OTHER INFORMATION

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