

# Material Safety Data Sheet

## Bismuth(III)oxide

Revision Date: 02/04/2009

Date Issued: 01/03/2007

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

<b>Product name</b>	Bismuth(III)oxide, Nanopowder
<b>Product code</b>	NO-0016-HP
<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

Xi irritant

### 3 COMPOSITION / INFORMATION ON INGREDIENTS

<b>Ingredient name</b>	Bismuth(III)oxide, 99.8%
<b>CAS No.</b>	1304-76-3
<b>Empirical Formula</b>	Bi <sub>2</sub> O <sub>3</sub>
<b>Molecular weight</b>	465.96 amu

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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.
<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>	Use fire fighting measures appropriate to the surrounding fire.
<b>Special fire fighting procedures</b>	No special procedures required.
<b>Unusual fire &amp; explosion hazards</b>	Possible emission of toxic fumes.
<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 mask. 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 container closed. Store in a cool, dry place.

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### 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Protective equipment</b>	Safety goggles. Chemical resistant gloves. Protective clothing. Protective mask when high concentrations are present.
<b>Process control measures</b>	Provide eyewash station and safety shower. Use engineering controls to reduce air contamination to permissible exposure levels.
<b>Ventilation</b>	Provide adequate general and local exhaust ventilation.
<b>Respirators</b>	Use high efficiency particulate respirator with appropriate filter.
<b>Exposure limits</b>	N/A

### 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Solid
<b>Odor/taste</b>	No characteristic odor.
<b>PH</b>	N/A
<b>Boiling Point</b>	1819 °C
<b>Melting Point</b>	822-828 °C
<b>Flash Point</b>	N/A
<b>Flammability</b>	N/A
<b>Autoignition Temp</b>	N/A
<b>Oxidizing Properties</b>	N/A
<b>Explosive Properties</b>	N/A

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<b>Explosion Limits</b>	N/A
<b>Vapor Pressure</b>	N/A
<b>SG/Density</b>	8.9 g/cm <sup>3</sup> at 20 °C
<b>Partition Coefficient</b>	N/A
<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</b>	Insoluble in water

### 10 STABILITY AND REACTIVITY

<b>Stability</b>	No particular stability concerns.
<b>Conditions/materials to avoid</b>	Oxidizing agents
<b>Hazardous Decomposition</b>	hazardous products of decomposition: Metal oxide fume.

### 11 TOXICOLOGICAL INFORMATION

<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
<b>Skin</b>	Causes irritation

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<b>Eyes</b>	Causes irritation
<b>Sensitization</b>	No effect known
<b>Acute toxicity</b>	LD50, oral, rat: 5 mg/kg

### 12 ECOLOGICAL INFORMATION

Do not allow material to be released to the environment without proper governmental permits.

### 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

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

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### 15 REGULATORY INFORMATION

**Label for supply**

Xi irritant

**R-Phrases**

36/37/38

Irritating to eyes, respiratory system and skin

**S-Phrases**

S26

In case of contact with eyes, rinse immediately

S37

Wear appropriate gloves

### 16 OTHER INFORMATION

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