

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

Date Issued: 01/03/2007

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

Product name	Bismuth(III)oxide, Nanopowder
Product code	NO-0052-HP
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)

Irritating to eyes, respiratory system and skin.

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion/irritation, Category 2, H315

Serious eye damage/Eye irritation, Category 2, H319

Specific Target Organ Toxicity - Single exposure: Respiratory tract irritation, Category 3, H335

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

Date Issued: 01/03/2007

2.2 Label elements

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

Hazard description:

Label for supply



Xi, Irritant.

Information pertaining to particular dangers for man and environment

Risk phrases

R: 36/37/38 Irritating to eyes, respiratory system and skin

Safety phrases

S S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37: Wear suitable gloves.

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

Hazard statements



Warning

H-phrases

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

Precautionary statements

P-phrases

P261: Avoid breathing dust/fume/gas/mist/vapours/spray .

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

Date Issued: 01/03/2007

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

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

3 COMPOSITION / INFORMATION ON INGREDIENTS

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

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

Date Issued: 01/03/2007

5 FIRE FIGHTING MEASURES

Extinguishing media	Use fire fighting measures appropriate to the surrounding fire.
Special fire fighting procedures	No special procedures required.
Unusual fire & explosion hazards	Possible emission of toxic fumes.
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 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.

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

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 container 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.
Exposure limits	N/A

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Odor/taste	No characteristic odor.

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011
Date Issued: 01/03/2007

PH	N/A
Boiling Point	1819 °C
Melting Point	822-828 °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	8.9 g/cm ³ at 20 °C
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	Insoluble in water

10 STABILITY AND REACTIVITY

Stability	No particular stability concerns.
Conditions/materials to avoid	Oxidizing agents

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

Date Issued: 01/03/2007

Hazardous Decomposition

hazardous products of decomposition: Metal oxide fume.

11 TOXICOLOGICAL INFORMATION

Ingestion

Harmful if swallowed.

Inhalation

Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Skin

Causes irritation

Eyes

Causes irritation

Sensitization

No effect known

Acute toxicity

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.

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

Date Issued: 01/03/2007

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

In accordance with local and national regulations.

16 OTHER INFORMATION

DISCLAIMER

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPOSED TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. IOLITEC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR ANY PROCESS. IT IS THE USERE'S RESPONISIBILTY TO SATISFY HIMSELF AS TO THE SUITABILITY OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

Material Safety Data Sheet

Bismuth(III)oxide

Revision Date: 02/08/2011

Date Issued: 01/03/2007

IN NO WAY SHALL IOLITEC BE LIABLE FOR ANY CLAIMS, LOSSES OR DAMAGES OF ANY THIRD PARTY OR FOR THE LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.