

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Material Name: Bismuth subnitrate
Catalogue Number: C084
Other Names: Bismuth(III) nitrate basic; Bismuthyl nitrate; Bismuth(III) oxynitrate; Bismuth(III) Subnitrate.
Recommended Use: Bismuth staining for light and electron microscopy.

Supplier Name: ProSciTech
Street Address: 1/11 Carlton Street, Kirwan, Qld. 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am – 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am – 5:00pm, Monday to Friday (excluding Public Holidays)

SECTION 2 - HAZARDS IDENTIFICATION

Hazard Classification:
 Hazardous according to the criteria for Classifying Hazardous Substances [NOHSC:1008].
Hazardous and/or Dangerous Nature:
 HAZARDOUS SUBSTANCE. DANGEROUS GOODS.
Risk Phrases:
 R8: Contact with combustible material may cause fire.
 R36/37/38: Irritating to eyes, respiratory system and skin.
Safety Phrases:
 S17: Keep away from combustible material.
 S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36: Wear suitable protective clothing.

Refer to Section 15 for Poisons Schedule.

SECTION 3 - COMPOSITION /INFORMATION ON INGREDIENTS

Pure Substance (Proportion 100%):
Chemical Identity: Bismuth Subnitrate
Common Name(s): Bismuth(III) nitrate basic; Bismuthyl nitrate; Bismuth(III) oxynitrate; Bismuth(III) Subnitrate.
CAS Number: 1304-85-4

SECTION 4 - FIRST AID MEASURES

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Inhalation: Consult a physician. Show this safety data sheet to the doctor in attendance.
Eye Contact: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin Contact: Wash off with soap and plenty of water. Consult a physician.
First Aid Facilities: Eyebath/eyewash, Safety shower & general washroom facilities.
Medical Attention & Special Treatment:
 Consult a physician. Show this safety data sheet to the doctor in attendance.

SECTION 5 - FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
 Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool unopened containers.

Hazards from Combustion Products:
 Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Bismuth oxides.

Precautions for Fire Fighters:
 Wear self contained breathing apparatus for fire fighting if necessary

Hazchem Code: Not available.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Containment & Clean up:

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Do not let product enter drains.

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7 - HANDLING & STORAGE

Precautions for Safe Handling:

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition. Normal measures for preventive fire protection.

Precautions for Safe Storage:

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards: No exposure standard allocated.

Engineering Controls:

Provide appropriate exhaust ventilation.

Personal Protective Equipment:

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Eye protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Appearance:	White powder.
Odour:	Odourless.
pH:	Acidic to litmus.
Freezing/melting point (°C):	500°C
Solubility:	Insoluble.
Specific gravity or density:	4.93 g/cm ³
Molecular Formula:	H ₉ Bi ₅ N ₄ O ₂₂
Molecular Weight:	1461.9966

SECTION 10 - STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions of use.

Conditions to avoid: Flammable and combustible materials. Incompatible materials.

Incompatible Materials: Alkaline bicarbonates, soluble iodides, gallic acid, calomel, tannins, salicylic acid.

Hazardous Decomposition Products:

Hazardous decomposition products formed under fire conditions. Nitrogen oxides (NO_x), Bismuth oxides.

Hazardous Reactions: Has not been reported.

SECTION 11 - TOXICOLOGICAL INFORMATION**Exposure and Health Effects:**

Strong oxidizer. Contact with other material may cause a fire. May cause irritation. May cause kidney damage. May cause methemoglobinemia. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Target Organs: liver, kidneys.

Ingestion:

May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. May cause kidney damage.

Inhalation:

May cause effects similar to those described for ingestion.

Eye Contact:

May cause mild eye irritation.

Skin Contact:

No information regarding skin irritation and other potential effects was found.

Human/Animal data: No data available.

Carcinogenic Category: Not classified as a Carcinogen by the IARC.

Other Carcinogenic Information: No data available.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Persistence and degradability: No data available.

Mobility: No data available.

SECTION 13 - DISPOSAL CONSIDERATIONS**Disposal Methods:**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste

SECTION 14 - TRANSPORT INFORMATION

UN Number: UN 1477

UN Proper Shipping Name: Nitrates, Inorganic, n.o.s. (Bismuth Subnitrate)

Class and Subsidiary risk: 5.1

Packing Group: PG II

Special Precautions for User: Not available.

Hazchem Code: Not available.

SECTION 15 - REGULATORY INFORMATION

Poison Schedule Number: None Allocated.

SECTION 16 - OTHER INFORMATION

Date of preparation of MSDS: 24 January 2012

Comments:**List of Publications referenced when creating this MSDS;**

- Hazardous Substances Information System Consolidated Lists: Safe Work Australia.
- APPROVED CRITERIA FOR CLASSIFYING HAZARDOUS SUBSTANCES [NOHSC:1008(2004)] 3rd Edition: National Occupational Health and Safety Commission.
- Dangerous Goods - Initial Emergency Response Guide (SAA/SNZ HB76:1997).
- IATA Dangerous Goods Regulations.
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].
- Australia Standard for the Uniform Scheduling of Drugs and Poisons [SUSPD] (Australian Government Department of Health and Ageing).

This Material Safety Data Sheet (MSDS) has been prepared in compliance with the National code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]. It is the user's responsibility to determine the suitability of this information for adoption of necessary safety precautions. The information published in this MSDS has been compiled from the publications listed in Section 16: to the best of our ability and knowledge these publications are considered accurate. We reserve the right to revise Material Safety Data Sheets as new information becomes available. Copies may be made for non-profit use.

... End of MSDS ...