

# Material Safety Data Sheet

Bismuth Subnitrate  
EMS Catalog # 11450

## Section 1 - Chemical Product and Company Identification

**MSDS Name:** Bismuth Subnitrate

**Catalog Numbers:** 11450

**Synonyms:** Bismuth nitrate basic, Bismuth Oxynitrate

**Company Identification:**

Electron Microscopy Sciences  
1560 Industry Road \* P.O. Box 550  
Hatfield, PA 19440

**For information, call:** 215-412-8400

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

## Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1304-85-4	Bismuth Subnitrate	100	

**Hazard Symbols:** O

**Risk Phrases:** 36/38 8

## Section 3 - Hazards Identification

### EMERGENCY OVERVIEW

Appearance: white powder. **Danger!** 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.

#### Potential Health Effects

**Eye:** May cause mild eye irritation.

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

**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.

**Chronic:** No information found.

## Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid if irritation develops or persists. Flush skin with plenty of soap and water. Cover the irritated skin with an emollient.

**Ingestion:** Do NOT induce vomiting, call a physician immediately.

**INHALATION:** REMOVE TO FRESH AIR. GET MEDICAL ATTENTION FOR ANY BREATHING DIFFICULTY.

**Notes to Physician:** Treat symptomatically.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with combustible materials may cause a fire.

**Extinguishing Media:** Use water spray to cool fire-exposed containers. Use flooding quantities of water.

**Flash Point:** Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** Not published.

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Oxidizing material. Stop leak. Avoid contact with a combustible material (wood,paper, oil, clothing..)Keep substance damp

**Using water spray. Do not touch spilled material. Prevent entry into Sewers, basements or confined areas; dike if needed. Call for assistance on Disposal.**

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation.

**Storage:** Do not store near combustible materials. Store in a cool, dry place.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits:** Not available

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Bismuth Subnitrate	none listed	none listed	none listed

**OSHA Vacated PELs:** Bismuth Subnitrate: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid (crystalline powder)

Color: white

**Appearance:** white powder

**Odor:** odorless

**pH:** Acidic to litmus % Volatiles by volume @21C(70F)

**Vapor Pressure:** Not available.

**Vapor Density:** 4.93

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not applicable

**Freezing/Melting Point:** Not available.

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble in water

**Specific Gravity/Density:**4.93

**Molecular Formula:**Bi<sub>5</sub>O(OH)<sub>9</sub>(NO<sub>3</sub>)<sub>4</sub>

**Molecular Weight:**1461.9966

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** Combustible materials.

**Incompatibilities with Other Materials:** Flammable and combustible materials, organic substances.

**Hazardous Decomposition Products:** Nitrogen oxides.

**Hazardous Polymerization:** Has not been reported

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 1304-85-4: EB2977000

**LD50/LC50:**

Not available.

**Carcinogenicity:**

CAS# 1304-85-4: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** No data available.

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Neurotoxicity:** No data available.

**Mutagenicity:** No data available.

**Other Studies:** No data available.

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	Nitrates, Inorganic, n.o.s. (Bismuth Subnitrate)				No information available.
<b>Hazard Class:</b>	5.1: Oxidizing material				
<b>UN Number:</b>	1477				
<b>Packing Group:</b>	PG II				

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 1304-85-4 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

EMS Catalog # 11450

Bismuth Subnitrate

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**SARA****Section 302 (RQ)**

None of the chemicals in this material have an RQ.

**Section 302 (TPQ)**

None of the chemicals in this product have a TPQ.

**Section 313**

No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 1304-85-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations****European Labeling in Accordance with EC Directives****Hazard Symbols:**

O

**Risk Phrases:**

R 36/38 Irritating to eyes and skin.

R 8 Contact with combustible material may cause fire.

**Safety Phrases:**

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28 After contact with skin, wash immediately with...

**WGK (Water Danger/Protection)**

CAS# 1304-85-4: No information available.

**Canada - DSL/NDSL**

CAS# 1304-85-4 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of C, D2B.

**Canadian Ingredient Disclosure List****Exposure Limits**

## Section 16 - Additional Information

**MSDS Creation Date:** 9/02/1997

**Revision #2 Date:**05/31/07

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Electron Microscopy Sciences be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Electron Microscopy Sciences has been advised of the possibility of such damages.*