

# SAFETY DATA SHEET

Creation Date 04-Sep-2013

Revision Date 20-Dec-2025

Revision Number 5

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** Bismuth(III) sulfide

**Cat No. :** AC453990000; AC453991000

**CAS No** 1345-07-9  
**Synonyms** No information available

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

#### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

Classification according to [US] OSHA (29 CFR 1910.1200, 2024)

This product is not considered hazardous by the US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200).

### Label Elements

None required

### Hazards not otherwise classified (HNOC)

None identified

### Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

### 3. Composition/information on Ingredients

| Component                                         | CAS No    | Weight % |
|---------------------------------------------------|-----------|----------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | 1345-07-9 | >95      |

### 4. First-aid measures

|                                            |                                                                                                                         |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.         |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| <b>Inhalation</b>                          | Remove to fresh air. Get medical attention immediately if symptoms occur.                                               |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.                   |
| <b>Most important symptoms and effects</b> | None reasonably foreseeable.                                                                                            |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                   |

### 5. Fire-fighting measures

|                                         |                          |
|-----------------------------------------|--------------------------|
| <b>Unsuitable Extinguishing Media</b>   | No information available |
| <b>Flash Point</b>                      | No information available |
| <b>Method -</b>                         | No information available |
| <b>Autoignition Temperature</b>         | Not applicable           |
| <b>Explosion Limits</b>                 |                          |
| <b>Upper</b>                            | No data available        |
| <b>Lower</b>                            | No data available        |
| <b>Sensitivity to Mechanical Impact</b> | No information available |
| <b>Sensitivity to Static Discharge</b>  | No information available |

#### Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

None known.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

Health  
0

Flammability  
0

Instability  
0

Physical hazards  
N/A

### 6. Accidental release measures

|                                  |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>      | Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.  |
| <b>Environmental Precautions</b> | Should not be released into the environment. See Section 12 for additional Ecological Information. |

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## 7. Handling and Storage

|                 |                                                                                                                                                                                   |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation. |
| <b>Storage.</b> | Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong acids.                                                                    |

## 8. Exposure controls / personal protection

|                                      |                                                                                                                                                                             |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exposure Guidelines</b>           | This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.                               |
| <b>Engineering Measures</b>          | None under normal use conditions.                                                                                                                                           |
| <b>Personal Protective Equipment</b> |                                                                                                                                                                             |
| <b>Eye/face Protection</b>           | 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. |
| <b>Skin and body protection</b>      | Wear appropriate protective gloves and clothing to prevent skin exposure.                                                                                                   |
| <b>Respiratory Protection</b>        | No protective equipment is needed under normal use conditions.                                                                                                              |
| <b>Recommended Filter type:</b>      | Particle filter.                                                                                                                                                            |
| <b>Hygiene Measures</b>              | Handle in accordance with good industrial hygiene and safety practice.                                                                                                      |

## 9. Physical and chemical properties

|                                                |                          |                |                 |
|------------------------------------------------|--------------------------|----------------|-----------------|
| <b>Appearance</b>                              |                          |                |                 |
| <b>Physical State</b>                          | Powder Solid             |                |                 |
| <b>Color</b>                                   |                          |                |                 |
| <b>Odor</b>                                    | No information available |                |                 |
| <b>Odor Threshold</b>                          | No information available |                |                 |
| <b>Property</b>                                | <b>Values</b>            | <b>Remarks</b> | <b>• Method</b> |
| <b>Melting Point/Range</b>                     | No data available        |                |                 |
| <b>Softening Point</b>                         | No data available        |                |                 |
| <b>Boiling Point/Range</b>                     | No information available |                |                 |
| <b>Flash Point</b>                             | No information available |                |                 |
| <b>Flammability (liquid)</b>                   | Not applicable           |                |                 |
| <b>Flammability (solid,gas)</b>                | No information available |                |                 |
| <b>Explosion Limits</b>                        | No data available        |                |                 |
| <b>Autoignition Temperature</b>                | Not applicable           |                |                 |
| <b>Decomposition Temperature</b>               | No data available        |                |                 |
| <b>pH</b>                                      | No information available |                |                 |
| <b>Viscosity</b>                               | Not applicable           |                |                 |
| <b>Water Solubility</b>                        | No information available |                |                 |
| <b>Solubility in other solvents</b>            | No information available |                |                 |
| <b>Partition Coefficient (n-octanol/water)</b> |                          |                |                 |

|                            |                   |       |
|----------------------------|-------------------|-------|
| Vapor Pressure             | No data available |       |
| Density / Specific Gravity | No data available |       |
| Bulk Density               | No data available |       |
| Vapor Density              | Not applicable    | Solid |
| Particle characteristics   | No data available |       |

**Other Information**

|                   |                                |
|-------------------|--------------------------------|
| Molecular Formula | Bi <sub>2</sub> S <sub>3</sub> |
| Molecular Weight  | 514.16                         |
| Evaporation Rate  | Not applicable - Solid         |

## 10. Stability and reactivity

|                                  |                                                           |
|----------------------------------|-----------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                |
| Stability                        | No information available.                                 |
| Conditions to Avoid              | Incompatible products. Excess heat. Avoid dust formation. |
| Incompatible Materials           | Strong acids                                              |
| Hazardous Decomposition Products | None under normal use conditions                          |
| Hazardous Polymerization         | No information available.                                 |
| Hazardous Reactions              | None under normal processing.                             |

## 11. Toxicological information

**Information on expected route of exposure**

|            |                                                |
|------------|------------------------------------------------|
| Inhalation | Avoid breathing dust or spray mist.            |
| Ingestion  | No known effect based on information supplied. |
| Eyes       | Not an expected route of exposure.             |
| Skin       | No known effect based on information supplied. |

**Toxicology data for the components**

| Component                                         | LD50 Oral             | LD50 Dermal               | LC50 Inhalation             |
|---------------------------------------------------|-----------------------|---------------------------|-----------------------------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | LD50 = 5 g/kg ( Rat ) | LD50 > 2000 mg/kg ( Rat ) | LC50 > 5.2 mg/L ( Rat ) 4 h |

|                                        |                          |
|----------------------------------------|--------------------------|
| Toxicologically Synergistic Products   | No information available |
| (b) skin corrosion/irritation;         | No data available        |
| (c) serious eye damage/irritation;     | No data available        |
| (d) respiratory or skin sensitization; |                          |
| Respiratory                            | No data available        |
| Skin                                   | No data available        |
| (e) germ cell mutagenicity;            | No data available        |
| (f) carcinogenicity;                   |                          |

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component                                         | CAS No    | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|---------------------------------------------------|-----------|------------|------------|------------|------------|------------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | 1345-07-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable  
Solid

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed No information available.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

## 15. Regulatory Information

### United States of America Inventory

| Component                                         | CAS No    | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|---------------------------------------------------|-----------|------|-----------------------------------------------|-----------------------------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | 1345-07-9 | X    | ACTIVE                                        | -                           |

**Legend:**

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b)** - Notices of Export

Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component                                         | CAS No    | DSL | NDSL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|---------------------------------------------------|-----------|-----|------|-----------|-------|------|------|------|-------|----------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | 1345-07-9 | -   | X    | 215-716-0 | -     | X    | X    | X    | -     | KE-09906 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

Not applicable

**Clean Air Act**

Not applicable

**OSHA - Occupational Safety and Health Administration**

Not applicable

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations****Mexico - Grade** No information available**Authorisation/Restrictions according to EU REACH** Not applicable

| Component                                         | CAS No    | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---------------------------------------------------|-----------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | 1345-07-9 | -                                                                   | -                                                                             | -                                                                                                     |

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

| Component                                         | CAS No    | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---------------------------------------------------|-----------|----------------|------------------------------|---------------------------|--------------------------------------------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | 1345-07-9 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

| Component                                         | CAS No    | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---------------------------------------------------|-----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| Bismuth sulfide (Bi <sub>2</sub> S <sub>3</sub> ) | 1345-07-9 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

**16. Other Information**

**Prepared By** Product stewardship (Regulatory Affairs)  
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**Creation Date** 04-Sep-2013  
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**Revision Summary** Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**