

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: June 14, 2016

02549-AB

SPI-Chem™ Bismuth Subnitrate

Section 1.1: Identification

Chemical Name/Synonyms Bismuth Subnitrate; Bismuth Nitrate, basic; Bismuth Oxynitrate

Product or Trade Name SPI-Chem™ Bismuth Subnitrate

CAS #'s 1304-85-4

Chemical Formula..... $\text{Bi}_5\text{O}_9\text{OH}(\text{NO}_3)_4$

Section 1.2: Relevant Uses/Restrictions

Laboratory chemical for use in staining for Light Microscopy.

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solids (Category 2)

Skin Irritation (Category 2)

Eye Irritation (Category 2A)
Specific Target Organ Toxicity – single exposure (Category 3) Respiratory system

2.2 Label elements

Pictogram



Signal Word: Danger

Hazard statements:

- H272: May intensify fire; oxidizer
- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H335: May cause respiratory irritation

Precautionary statements:

- P210: Keep away from heat.
- P220: Keep/Store away from clothing / combustibles.
- P221: Take any precaution to avoid mixing with combustibles.
- P261: Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P264: Wash skin thoroughly after handling.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Removed contact lenses, if present and easy to do. Continue rinsing.
- P312: Call a POISON CENTER or doctor/ physician if you feel unwell.
- P321: Specific treatment (see supplemental first aid instructions on this label).
- P332 + P313: If skin irritation occurs: Get medical advice/ attention.
- P337 + P313: If eye irritation persists: Get medical advice/ attention.
- P362: Take off contaminated clothing and wash before reuse.
- P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
- P405: Store locked up.
- P501: Dispose of contents/ container to an approved waste disposal plant.

2.3 Other Hazards:

Hazards not otherwise classified (HNOC) or not covered by GHS – none.

Hazardous Material Information System USA

Health 2
Fire Hazard 0
Reactivity 2
Personal Protection E

NFPA Rating (estimated)
Health 2
Flammability..... 0
Reactivity 2
Specific hazard oxy

Section 3: Composition

3.1 Substances:

Bismuth subnitrate CAS# 1304-85-4 EC# 215-136-8 100 %/weight percent

Section 4: First Aid Measures

4.1 Description of first aid measures:

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact: In case of skin contact, wash with soap and plenty of water. Consult a physician.

Eye Contact: In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion: If swallowed, never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see Section 2.2) and/or in Section 11/

4.3. Indication of any immediate medical attention and special treatment needed: No data available.

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x), Bismuth oxides

Hazardous combustion products: No data available.

5.3 Advice for firefighters

Special protective equipment and precautions for firefighters: Wear self-contained breathing apparatus for fire-fighting if necessary.

Further information: Use water spray to cool unopened containers.

Section 6: Accidental Release Measures

6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Endure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

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). Deep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see Section 13.

Section 7: Handling and Storage

7.1 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.

Normal measures for preventive fire protection.

For precautions, see Section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end uses

Laboratory chemical for use in staining for Light Microscopy.

Not intended for clinical or medical uses.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection

Workplace exposure limits

Contains no substances with occupational exposure limit values.

Biological limit values

No further information available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Wash hands before breaks and at the end of workday.

8.2.2 Individual protection measures

Eye/face protection:

Safety glasses with side-shields conforming to EN 166.

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin 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.

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.

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).

8.2.3 Environmental exposure controls

Do not let product enter drains.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Form: solid

Odor: no data available

Odor threshold: no data available

pH: no data available

Melting point/Freezing point: Melting point/range: 500 °C (932 °F)

Boiling point/Boiling point range: no data available

Flash Point: no data available

Evaporation rate: no data available

Flammability (solid, gas): no data available

Upper/lower flammability or explosive limits: no data available

Vapor Pressure: no data available

Vapor density: no data available

Relative density: 4.93 g/cm³

Solubility: insoluble in water

Partition coefficient (n-octanol/water): no data available

Auto-ignition temperature: no data available

Decomposition temperature: no data available

Viscosity: no data available

Explosive properties: no data available

Oxidizing Properties: The substance is classified as oxidizing with the category 2.

9.2 Other information

No further data available.

Section 10: Stability and Reactivity

10.1 Reactivity

No data available.

10.2 Chemical Stability

Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions

No data available.

10.4 Conditions to avoid

No data available.

10.5 Incompatible materials

Alkaline bicarbonates, soluble iodides, gallic acid, calomel, tannins, salicylic acid

10.6 Hazardous decomposition products

Other decomposition products: No data available.

In the event of fire: see Section 5.

Section 11: Toxicological Information

Information on the likely routes of exposure

11.1 Information on toxicological effects

Routes of Entry: Inhalation, Ingestion.

Toxicity to Animals: Not available.

Chronic Effects on Humans: May cause damage to the following organs: kidneys, liver.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Lowest Published Lethal Dose: LDL [Human infant] – Oral; Dose: 1000 mg/kg.

Special Remarks on Chronic Effects on Humans: Passes through the placental barrier in human.

Due to the presence of dark line on gums, chronic bismuth toxicity may complicate diagnosis of chronic lead toxicity.

a. acute toxicity

Ingestion: May cause gastrointestinal (digestive) tract irritation with abdominal pain, diarrhea.

May affect behavior / central nervous system (ataxia, tremors, convulsions, irregular myoclonic jerks, mental confusion, disordered gait, dysarthria), and blood (methemoglobinemia).

Chronic or prolonged ingestion may cause weakness, rheumatic pain, diarrhea, fever, metal line on gums, foul breath, gingivitis. It may also affect metabolism (decreased appetite), liver (jaundice), kidneys. The kidneys are the site of highest concentration, with the liver being considerably lower. Oral administration produces poisoning through the formation of nitrites.

b. skin corrosion/irritation

May cause skin irritation.

Chronic Potential Health Effects: Chronic or prolonged skin contact may cause dermatitis.

- c. serious eye damage/irritation
May cause eye irritation. May cause temporary foggy vision.
- d. respiratory of skin sensitization
May cause respiratory tract irritation.
- e. germ cell mutagenicity
No data available.
- f. carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH>
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP>
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA>
- g. reproductive toxicity
No additional data available.
- h. STOT-single exposure
Inhalation: May cause respiratory irritation.
- i. STOT-repeated exposure
No data available.
- j. aspiration hazard
No data available.

Additional Information:

RTECS: Not available.

Section 12: Ecological Information

- 12.1 Toxicity
No data available.
- 12.2 Persistence and degradability
No data available.
- 12.3 Bioaccumulative potential
No data available.
- 12.4 Mobility in soil
No data available.
- 12.5 Results of PBT and vPvB assessment
No data available.
- 12.6 Other adverse effects
No data available.

Section 13: Disposal Considerations

- 13.1 Waste treatment methods
Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Contact a licensed professional waste disposal service to dispose of this material.

Section 14: Transport Information

DOT

UN number: UN 1477
Class: 5.1
Packing Group: II

Proper shipping name: Nitrates, inorganic, n.o.s.
Marine pollutant: No
Poison Inhalation Hazard: No

IATA:

UN number: UN 1477
Class: 5.1
Packing Group: II
Proper shipping name: Nitrates, inorganic, n.o.s.

IMDG:

UN number: UN 1477
Class: 5.1
Packing Group: II
Proper shipping name: NITRATES, INORGANIC, N.O.S.
Marine pollutant: No

Section 15: Regulatory Information

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

US Government Regulations:

RTECS # EB2977000

TSCA Inventory:

Listed

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards:

Reactivity Hazard; Acute Health Hazard

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (de minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65 Components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

State Right to Know Components:

CAS# 1304-85-4 is listed on the New Jersey and Pennsylvania Right-To-Know lists of components.

EU regulations

EINECS: 233-792-3

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006:

Substance is not listed.

REACH pre-registered substances: Substance is listed.

WGK Germany: 3

15.2 Chemical Safety Assessment

Date of Preparation: June 14, 2016.

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxicological
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit

Section 16: Other Information

Disclaimer of Liability:

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