

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Bismuth Subnitrate
CAS number	1304-85-4
Synonyms	Basic bismuth nitrate; Bismuth hydroxide nitrate oxide

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Oxidizing solids	Category 2
Skin Corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target organs - Respiratory system	

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

May intensify fire; oxidizer
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

Precautionary statements

Prevention Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep/store away from clothing/other combustible materials.
Take any precaution to avoid mixing with combustibles

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

Skin IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse.

Eyes IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing if eye irritation persists: Get medical advice/attention.

Fire In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage Store in a well-ventilated place. Keep container tightly closed
Store locked up.

Disposal Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Bismuth subnitrate	Basic bismuth nitrate; Bismuth hydroxide nitrate oxide	1304-85-4	>90%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
If swallowed	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

None reasonably foreseeable

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media No information available

Unsuitable extinguishing media No information available

5.2 Specific hazards arising from the substance or mixture

May intensify fire; oxidizer. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.)

5.3 Special 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.

5.4 Further information

Flash Point No information available

Autoignition Temperature No information available

Explosion limits

Upper No information available

Lower No information available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

6.2 Environmental precautions

Should not be released into the environment. See section 12 for additional ecological information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Keep away from

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials.

Incompatibilities

Reducing agents. Combustible materials.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2 Exposure controls

Appropriate engineering controls

None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Tight sealing safety goggles.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

No information available

Respiratory protection

No protective equipment is needed under normal use conditions.

Control of environmental exposure

No information available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Powder solid
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	3.2 @ 20°C 50 g/l aq. Sol
Melting Point/Range	500 °C / 932 °F
Boiling Point/Range	No information available
Evaporation Rate	Not applicable
Flammability (solid)	Not applicable
Flammability or explosive limit	No information available
Vapor Pressure	No information available
Vapor Density	Not applicable
Density	No information available
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	Not applicable
Decomposition Temp	No information available
Viscosity	Not applicable
Molecular Formula	Bi5 H9 N4 O22
Molecular Weight	1461.99

VOC Content(%)
Oxidizing properties

No information available
No information available

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

Yes

10.2 Chemical stability

Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire.

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Incompatible products. Excess heat. Avoid dust formation. Combustible material.

10.5 Incompatible materials

Reducing agent, Combustible material, strong reducing agents

10.6 Hazardous decomposition products

Heavy metal oxides, Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Based on ATE data, the classification criteria are not met.

Skin corrosion/irritation

Irritating to skin

Serious eye damage/eye irritation

Irritating to eyes

Respiratory or skin sensitization

Irritating to respiratory system

Germ cell mutagenicity

No information available

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Bismuth Subnitrate	1304-85-4	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

Respiratory system

Specific target organ toxicity - repeated exposure

None known

Reproductive toxicity

No information available

Chronic effects

No information available

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Bismuth subnitrate	LC50	Freshwater Fish	137 mg/L, 96h

12.2 Persistence and degradability

Insoluble in water. May persist.

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

Is not likely mobile in the environment due to its low water solubility.

12.5 Results of PBT and vPvB assessment

No information available

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 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.

SECTION 14: Transport information

DOT (US)

UN-no.	UN1477
Proper Shipping Name	NITRATES, INORGANIC, N.O.S.
Technical Name	Bismuth hydroxide nitrate oxide (Bi5(OH)9(NO3)4O)
Hazard Class	5.1
Packing Group	II

IMDG

UN-no.	UN1477
Proper Shipping Name	NITRATES, INORGANIC, N.O.S.
Hazard Class	5.1
Packing Group	II

IATA

UN-no.	UN1477
Proper Shipping Name	NITRATES, INORGANIC, N.O.S.
Hazard Class	5.1
Packing Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable

CERCLA Hazardous Substance List (40 CFR 302.4)

Not applicable

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See section 2 for more information

SARA 313 (TRI reporting)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

**FEMA Priority Substances Respiratory Health and Safety in the Flavor
Manufacturing Workplace**

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

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Revision 0

SECTION 17: Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.