

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Name: Bismuth(III) tert-Pentoxide

Product Number: All applicable American Elements product codes, e.g. BI-TAML-01

CAS #: 124687-44-1

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
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Emergency telephone number:

+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS02 flame

Flam. Sol. 2 H228 Flammable solid.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Other hazards that do not result in classification No data available

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.



Hazard pictograms

GHS02 GHS07

Signal word Warning

Hazard statements

H228 Flammable solid.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

CAS# Designation:

124687-44-1 Bismuth(III) tert-pentyloxide

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

In case of skin contact:

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Then consult doctor.

If swallowed:

Seek medical treatment.

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

No data available

4.3 Indication of any immediate medical attention and special treatment needed:

No data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents CO₂, sand, extinguishing powder. Do not use water.

5.2 Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Metal oxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

6.2 Environmental precautions: Do not allow material to be released to the environment without official permits.

6.3 Methods and materials for containment and cleanup:

Keep away from ignition sources.

Ensure adequate ventilation.

Prevention of secondary hazards: Keep away from ignition sources.

6.4 Reference to other sections

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle under dry protective gas.

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires: Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers: Store in cool location.

Information about storage in one common storage facility:

Store away from oxidising agents.

Store away from water.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Avoid contact with air / oxygen.

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

Protect from humidity and keep away from water.

7.3 Specific end use(s) No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters

Components with critical values that require monitoring at the workplace: Not required.

Additional information: No data

8.2 Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.

Protection of hands:

Inspect gloves prior to use.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves Impervious gloves

Eye protection:

Safety glasses

Face protection

Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:

Form: Powder

Colour: White

Smell: No data available

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 180 °C (dec)

Boiling point/Boiling range: No data available

Sublimation temperature / start: 63 °C (@ 0.0001mm Hg)

Flash point: N/A

Inflammability (solid, gas) Highly flammable.

Ignition temperature: No data available

Decomposition temperature: No data available

Self-inflammability: No data available.

Danger of explosion: No data available.

Critical values for explosion:

Lower: No data available

Upper: No data available

Steam pressure: N/A

Density No data available

Relative density No data available.

Vapor density N/A

Evaporation rate N/A

Solubility in / Miscibility with

Water: Reacts

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

Viscosity:

Dynamic: N/A

Kinematic: N/A

9.2 Other information No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity No data available

10.2 Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions Reacts with water

10.4 Conditions to avoid No data available

10.5 Incompatible materials:

Oxidising agents

Air

Water/moisture

10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Metal oxide

Inflammable gases/Vapors

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: No effects known.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: Causes skin irritation.

Eye irritation or corrosion: Causes serious eye irritation.

Sensitization: No sensitizing effect known.

Germ cell mutagenicity: No effects known.

Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: May cause respiratory irritation.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: No effects known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic 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

Additional ecological information:

Do not allow material to be released to the environment without official permits.

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.

Avoid transfer into the environment.

12.5 Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

12.6 Other adverse effects No data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Recommendation

Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.

Consult official regulations for proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number

ADR, IMDG, IATA UN3181

14.2 UN proper shipping name

ADR 3181 METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.

(Bismuth(III) tert-pentyloxiide)

IMDG, IATA METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.

(Bismuth(III) tert-pentyloxiide)

14.3 Transport hazard class(es)

ADR

Class 4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives.

Label 4.1

IMDG, IATA

Class 4.1 Flammable solids, self-reactive substances and solid desensitised explosives.

Label 4.1

Packing group

ADR, IMDG, IATA III

14.5 Environmental hazards: N/A

14.6 Special precautions for user Warning: Flammable solids, self-reactive substances and solid desensitised explosives.

Kemler Number: 48

EMS Number: F-A,S-I

Segregation groups Heavy metals and their salts (including their organometallic compounds)

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC

Code N/A

Transport/Additional information:

ADR

Excepted quantities (EQ): E1

Limited quantities (LQ) 5 kg

Transport category 3

Tunnel restriction code E

UN "Model Regulation": UN3181, METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is not listed.

Standard for the Uniform Scheduling of Drugs and Poisons Substance is not listed.

National regulations

Information about limitation of use:

For use only by technically qualified individuals.

Employment restrictions concerning young persons must be observed.

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

Other regulations, limitations and prohibitive regulations

ELINCS (European List of Notified Chemical Substances) Substance is not listed.

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.