

# SAFETY DATA SHEET

Date Printed: 05/15/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Lead Bromide

**Product Code:** PB-BR-05

**CAS Number:** 10031-22-8

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS08 Health hazard

Repr. 1A H360 May damage fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Hazards not otherwise classified

No data available

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS07 GHS08

Signal word

Danger

#### Hazard statements

H302+H332 Harmful if swallowed or if inhaled.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P281 Use personal protective equipment as required.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects

#### Classification system

HMIS ratings (scale 0-4)

Health (acute effects) = 2

Flammability = 0

Physical Hazard = 1

#### Other hazards

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Description: Lead(II) bromide

Identification number(s):

CAS number: 10031-22-8

EC number: 233-084-4

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## SECTION 4. FIRST AID MEASURES

Description of first aid measures

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

No data available

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

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

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

Lead oxide fume

Hydrogen bromide (HBr)

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

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

Methods and materials for containment and cleanup:

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards:

No special measures required.

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 disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Information about protection against explosions and fires:

The product is not flammable

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Specific end use(s)  
No data available

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## 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.

Control parameters

Components with limit values that require monitoring at the workplace:

Lead, elemental, and inorganic compounds (as Pb)

mg(Pb)/m<sup>3</sup>

ACGIH TLV 0.05; Confirmed animal carcinogen

Austria MAK 0.1

Belgium TWA 0.15

Denmark TWA 0.1

Germany MAK 0.1

Japan OEL 0.1

Korea TLV 0.05; Confirmed animal carcinogen

Netherlands TWA 0.15

Norway TWA 0.05

Poland TWA 0.05

Sweden TWA 0.05 (resp. dust)

0.1 (total dust)

Switzerland MAK-W 0.1

United Kingdom TWA 0.1

USA PEL 0.05

10031-22-8 Lead(II) bromide (100.0%)

PEL (USA) Long-term value: 0.05 mg/m<sup>3</sup> as Pb; See 29 CFR 1910.1025

REL (USA) Long-term value: 0.05\* mg/m<sup>3</sup> as Pb;\*8-hr TWA; See Pocket Guide App. C

TLV (USA) Long-term value: 0.05 mg/m<sup>3</sup> as Pb; BEI

EL (Canada) Long-term value: 0.05 mg/m<sup>3</sup> as Pb; IARC 2A, R

EV (Canada) Long-term value: 0.05 mg/m<sup>3</sup> as Pb, Skin (organic compounds)

Ingredients with biological limit values:

10031-22-8 Lead(II) bromide (100.0%)

BEI (USA) 30 µg/100 ml

Medium: blood

Time: not critical

Parameter: Lead

Additional information:

No data

Exposure controls

Personal protective equipment

Follow typical protective and hygienic practices for handling chemicals.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Maintain an ergonomically appropriate working environment.  
Breathing equipment:  
Use suitable respirator when high concentrations are present.  
Refer to 29CFR1910.1025 for regulations on respiratory protection required during exposure to lead and lead compounds.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.  
Eye protection:  
Safety glasses  
Body protection:  
Protective work clothing

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form: Crystals/Powder  
Color: White  
Odor: Odorless  
Odor threshold: No data available.  
pH: N/A  
Melting point/Melting range: 373 °C (703 °F)  
Boiling point/Boiling range: 916 °C (1681 °F)  
Sublimation temperature / start: No data available  
Flash point: N/A  
Flammability (solid, gas): No data available.  
Ignition temperature: No data available  
Decomposition temperature: No data available  
Autoignition: No data available.  
Danger of explosion: Product does not present an explosion hazard.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure: N/A  
  
Density at 20 °C (68 °F): 6.66 g/cm<sup>3</sup> (55.578 lbs/gal)  
Relative density: No data available.  
Vapor density: N/A  
Evaporation rate: N/A  
Solubility in / Miscibility with Water at 20 °C (68 °F): 5 g/l  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information  
No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

No dangerous reactions known

Conditions to avoid

No data available

Incompatible materials:

Oxidizing agents

Hazardous decomposition products:

Lead oxide fume

Hydrogen bromide

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Harmful if inhaled.

Harmful if swallowed.

LD/LC50 values that are relevant for classification:

No data

Skin irritation or corrosion:

May cause irritation

Eye irritation or corrosion:

May cause irritation

Sensitization:

No sensitizing effects known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

EPA-B2: Probable human carcinogen, sufficient evidence from animal studies; inadequate evidence or no data from epidemiologic studies.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans.

Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

Reproductive toxicity:

May damage fertility or the unborn child.

Specific target organ system toxicity - repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Subacute to chronic toxicity:

Lead and lead compounds may cause abdominal pain, diarrhea, loss of appetite, metallic taste, nausea, vomiting, lassitude, insomnia, muscle weakness, joint and muscle pain, irritability, headache and dizziness. Red blood cells may be damaged resulting in anemia. Gastritis and injury to the kidneys, liver, male gonads, and central nervous system may also occur.

Inorganic bromides may produce depression, emaciation and in severe cases, psychosis and mental deterioration. Bromoderma, a bromide rash, often occurs when bromide inhalation or administration is prolonged. This rash is usually found on the face and resembles acne and furunculosis.

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.

Carcinogenic categories

OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity:

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Ecotoxical effects:

Remark:

Very toxic for aquatic organisms

Additional ecological information:

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

Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

Other adverse effects

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods  
Recommendation  
Consult official regulations to ensure proper disposal.  
Uncleaned packagings:  
Recommendation:  
Disposal must be made according to official regulations.

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## **SECTION 14. EXPOSURE CONTROLS/PERSONAL PROTECTION**

UN-Number  
DOT, IMDG, IATA  
UN2291  
UN proper shipping name  
DOT  
Lead compounds, soluble, n.o.s.  
IMDG  
LEAD COMPOUND, SOLUBLE, N.O.S., MARINE POLLUTANT  
IATA  
LEAD COMPOUND, SOLUBLE, N.O.S.  
Transport hazard class(es)  
DOT  
Class  
6.1 Toxic substances.  
Label  
6.1  
Class  
6.1 (T5) Toxic substances  
Label  
6.1  
IMDG  
Class  
6.1 Toxic substances.  
Label  
6.1  
IATA  
Class  
6.1 Toxic substances.  
Label  
6.1  
Packing group  
DOT, IMDG, IATA  
III  
Environmental hazards:  
Environmentally hazardous substance, solid; Marine Pollutant  
Marine pollutant (IMDG):  
Yes (P)  
Symbol (fish and tree)  
Special precautions for user  
Warning: Toxic substances  
Segregation groups  
Heavy metals and their salts (including their organometallic compounds), lead and its compounds  
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
N/A



Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

Remarks:

Special marking with the symbol (fish and tree).

UN "Model Regulation":

UN2291, Lead compounds, soluble, n.o.s., 6.1, III

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## SECTION 15. REGULATORY INFORMATION

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

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings)

10031-22-8 Lead(II) bromide

California Proposition 65

Prop 65 - Chemicals known to cause cancer

10031-22-8 Lead(II) bromide

Prop 65 - Developmental toxicity

Substance is not listed.

Prop 65 - Developmental toxicity, female

Substance is not listed.

Prop 65 - Developmental toxicity, male

Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

This product contains lead and is subject to the reporting requirements of section 313 of the Emergency Planning and Community

Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Refer to 29CFR1910.1025 for regulations concerning lead and lead compounds.

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.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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## 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

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