

SAFETY DATA SHEET

According to US Regulation 29 CFR 1910.1200 (HazCom 2012)

1. Identification

Product identifier: Sodium Bromide

Other means of identification

Product No.: 0535, 3588

Recommended restrictions

Recommended use: For Laboratory, Research or Manufacturing Use.

Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Company Name: Avantor Performance Materials, LLC
Address: 100 Matsonford Rd, Suite 200
Radnor, PA 19087

Telephone: Customer Service: 855-282-6867

Contact Person: Product Information Compliance
E-mail: info@avantormaterials.com

Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada (24 hrs/day, 7 days/week)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation Category 2B

Unknown toxicity - Health

Acute toxicity, inhalation, dust or mist 100 %

Environmental Hazards

Acute hazards to the aquatic environment Category 1

Unknown toxicity - Environment

Acute hazards to the aquatic environment 0 %

Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: Causes eye irritation.
Very toxic to aquatic life.

Precautionary Statements

Prevention: Wash hands thoroughly after handling. Avoid release to the environment.

Response: 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. Collect spillage.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Substances

| Chemical Identity | CAS number | Content in percent (%)* |
|-------------------|------------|-------------------------|
| Sodium bromide | 7647-15-6 | 100% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Rinse mouth thoroughly. Call a POISON CENTER/doctor if you feel unwell.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.

Eye contact: Flush thoroughly with water. If irritation occurs, get medical assistance.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Hazards: None known.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid inhalation of dust. Wash thoroughly after handling. Avoid contact with eyes. Avoid contact with skin.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

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| General information: | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
| Eye/face protection: | Use tight fitting goggles if dust is generated. |
| Skin Protection | |
| Hand Protection: | Wear protective gloves. |
| Other: | Wear suitable protective clothing. |
| Respiratory Protection: | In case of inadequate ventilation use suitable respirator. |
| Hygiene measures: | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. |

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| <h3>9. Physical and chemical properties</h3> |
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Appearance

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| Physical state: | Solid |
| Form: | Crystals or powder. |
| Color: | White |
| Odor: | Odorless |
| Odor threshold: | No data available. |
| pH: | 5.74 (22.5 °C) |
| Melting point/freezing point: | 755 °C |
| Initial boiling point and boiling range: | 1,390 °C |
| Flash Point: | Not applicable |
| Evaporation rate: | No data available. |
| Flammability (solid, gas): | No data available. |
| Upper/lower limit on flammability or explosive limits | |
| Flammability limit - upper (%): | No data available. |
| Flammability limit - lower (%): | No data available. |
| Explosive limit - upper (%): | No data available. |
| Explosive limit - lower (%): | No data available. |
| Vapor pressure: | No data available. |
| Vapor density: | No data available. |
| Density: | 1.48 - 1.51 g/cm ³ (20 °C) |
| Relative density: | 1.48 - 1.51 (20 °C) |
| Solubility(ies) | |
| Solubility in water: | 910 g/l (20 °C) 1,160 g/l (50 °C) |
| Solubility (other): | ethanol: Approximate 0.0625 g/ml methanol: 0.17 g/ml |
| Partition coefficient (n-octanol/water): | No data available. |
| Auto-ignition temperature: | No data available. |
| Decomposition temperature: | No data available. |

Viscosity: No data available.

Other information

Molecular weight: 102.91 g/mol (NaBr)

10. Stability and reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: Moisture. Contact with incompatible materials.

Incompatible Materials: Strong oxidizing agents. Acids. Alkalies. Bromides. Inorganic salts.

Hazardous Decomposition Products: By heating and fire, toxic vapors/gases may be formed. Halogens.

11. Toxicological information

Information on likely routes of exposure

Inhalation: May be harmful if inhaled.

Skin Contact: May be harmful in contact with skin.

Eye contact: Causes eye irritation.

Ingestion: May cause irritation of the gastrointestinal tract.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: LD 50 (Rat): 4,200 mg/kg

Dermal Product: LD 50 (Rabbit) > 2,000 mg/kg

Inhalation Product: No data available.

Repeated dose toxicity Product: No data available.

Skin Corrosion/Irritation Product: May be harmful in contact with skin.

Serious Eye Damage/Eye Irritation Product: Causes eye irritation.

Respiratory or Skin Sensitization Product: Not a skin nor a respiratory sensitizer.

Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive toxicity

Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: No data available.

Other adverse effects: None known.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

15. Regulatory information

US Federal Regulations

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

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Serious eye damage or eye irritation

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

| <u>Chemical Identity</u> | <u>Threshold Planning Quantity</u> |
|--------------------------|------------------------------------|
| Sodium bromide | 10000 lbs. |

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

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

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

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

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

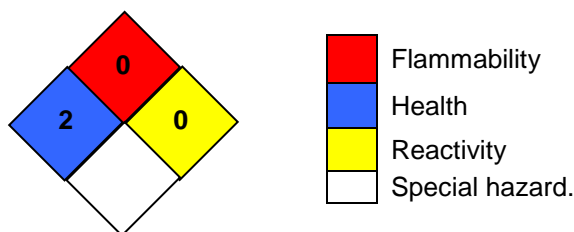
Not applicable

Inventory Status:

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| Australia AICS: | On or in compliance with the inventory |
| Canada DSL Inventory List: | On or in compliance with the inventory |
| China Inv. Existing Chemical Substances: | On or in compliance with the inventory |
| Japan (ENCS) List: | On or in compliance with the inventory |
| Japan ISHL Listing: | On or in compliance with the inventory |
| Korea Existing Chemicals Inv. (KECI): | On or in compliance with the inventory |
| Mexico INSQ: | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals: | On or in compliance with the inventory |
| Philippines PICCS: | On or in compliance with the inventory |
| Taiwan Chemical Substance Inventory: | On or in compliance with the inventory |
| US TSCA Inventory: | On or in compliance with the inventory |
| EINECS, ELINCS or NLP: | On or in compliance with the inventory |

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

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|-------------------------------|--|
| Issue Date: | 02-19-2020 |
| Revision Information: | Not relevant. |
| Version #: | 1.1 |
| Source of information: | Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate. |
| Further Information: | No data available. |

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