

MATERIAL SAFETY DATA SHEET

BRONOPOL

1. Product Identification

Product Name: Bronopol
Alternate Name: 2-Bromo-2-nitropropane-1,3-diol,
or 2-bromo-2-nitro-1,3-propanediol.
CAS No.: 52-51-7
Molecular Weight: 199.99
Chemical Formula: C₃H₆BrNO₄
Product Use: Industrial use only

Supplier: ASES CHEMICAL WORKS.
Address: Brahm Bagh, Jalori Gate
Jodhpur - 342001 Rajasthan-India
Phone: +91-9636889954
Web: www.ases.in
Email : ecom@ases.in

2. Hazards Identification

GHS, Globally Harmonized System Classification in accordance with 29 CFR 1910

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral Category 4 - H302

Acute toxicity, dermal Category 4 - H312

Skin irritation Category 2 - H315

Skin corrosion/irritation Category 2 - H318

Specific target organ toxicity - single exposure Category 3, Respiratory system - H335

Long-term (chronic) aquatic hazard Category 1, H410

Labeling according to Regulation (EC) No 1272/2008

GHS Label Elements GHS Label Elements



Corrosive



Aquatic Toxicity

Signal Words: Danger

Hazard statements:

H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink, or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P314: Get Medical advice/attention if you feel unwell.
P330: Rinse mouth.
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352: IF ON SKIN: Wash with soap and water.
P332+313: If skin irritation occurs: Get medical advice/attention.
P304+340: 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. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/ attention.
P360: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P501: Dispose of contents/ container to an approved waste disposal plant.

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3. Composition/Information on Ingredients

Product Name	CAS No.	EC No	Mol Formula	Mol Weight
Bronopol	52-51-7	200-143-0	199.99	C ₃ H ₆ BrNO ₄

4. First Aid Measures

Always seek medical attention after first aid measures are provided.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact: Wash skin with plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention.

Eye Contact: Flush eyes, with running water for at least 15 minutes, remove any contact lenses.. Get medical attention.

5. Fire Fighting Measures

Auto ignition temperature: High heat or direct flame is necessary to cause ignition.

Specific Hazards: Dust can form an explosive mixture with air. Do not allow run-off from firefighting to enter drains or water courses. Fine dust dispersed in air may ignite.

Fire Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Carbon dioxide and carbon monoxide, Nitrogen oxides (NO_x), Hydrogen bromide will be formed on combustion.

Special Information: Wear full protective clothing and self-contained breathing apparatus with full face piece. At high temperatures under fire conditions, it may produce toxic or irritating fumes.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:

Avoid breathing dust/fumes/gas/mist/vapors/spray. Use individual protective equipment Restrict unprotected personnel from the area. Prevent any contact with hot surfaces.

Environmental precautions: Do not let the product enter drains, soil, or water sources.

Methods and materials used for containment cleanup procedures and Storage:

Small Spill: Mop up and place in an appropriate waste disposal container and dispose of according to local and regional authority requirements.

Large Spill: Keep away from heat. Keep away from sources of ignition. Stop leaking, without risk. Keep in suitable, closed containers for disposal. Finish cleaning by spreading water on the contaminated surface and dispose as per law.

7. Handling and Storage

Precautions for safe handling:

Apply according to good manufacturing and industrial hygiene practices. Ensure proper ventilation. Wash thoroughly after handling. Do not drink, eat, or smoke while handling. Avoid contact with skin, eyes, and clothing. Minimize dust generation. Avoid breathing dust/fumes/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use individual protective equipment (waterproof boots, suitable protective clothing, safety glasses, etc.). Prevent any contact with hot surfaces.

Conditions for safe storage, including any incompatibilities:

Store in cool, dry, and ventilated area away from heat sources and protected from sunlight in tightly closed original container. Keep air contact to a minimum. Do not leave the material container open. Store protected from heat, sparks and ignition sources and incompatible materials. Avoid contact with skin and eyes. Avoid inhalation of dust/mist/vapor. Do not store with incompatible materials like strong oxidizing agents, strong acids, and strong bases. Light sensitive.

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8. Exposure Controls/Personal Protection

Ventilation System: A local and/or general exhaust is recommended to keep employee exposures as low as possible.

Personal Respirators: Use only under a chemical fume hood. use a full-face piece positive-pressure, air-supplied respirator.

Skin Protection: Wear protective clothing, including boots, gloves, lab coat, apron, or coveralls, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or a full-face shield where splashing is possible

Other Control Measures: Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

<u>Appearance:</u> White to pale yellow crystalline powder.	<u>Decomposition temperature:</u>	140C.
<u>Odor:</u> Odorless.	<u>Upper/lower explosive limits:</u>	Not available.
<u>Odor threshold:</u> Not available.	<u>Vapor Density (Air=1):</u>	Not available.
<u>pH:</u> 5 to 7	<u>Vapor Pressure (mm Hg):</u>	Not available.
<u>Relative density:</u> around 1.1	<u>Evaporation Rate (BuAc=1):</u>	Not available.
<u>Boiling Point:</u> Decomposes.	<u>Flammability (solid, gas):</u>	Not available.
<u>Melting Point:</u> 130°C literature.	<u>Partition coefficient: n-octanol/water:</u>	Not available.
<u>Flash point:</u> Not available.	<u>Solubility:</u>	Soluble in water & ethanol.
<u>Viscosity:</u> Not available.	<u>Auto-ignition temperature:</u>	Not available

10. Stability and Reactivity

<u>Stability:</u>	Stable under ordinary conditions of use and storage.
<u>Hazardous Decomposition Products:</u>	Fumes, Co2 and carbon monoxide, Nitrogen oxides (NOx) and Hydrogen bromide
<u>Hazardous Polymerization:</u>	Not reported.
<u>Incompatibilities:</u>	Strong oxidizing agents, Strong acids, and Strong bases.
<u>Conditions to Avoid:</u>	Heat, flames, ignition sources and incompatibles. Avoid dust formation, Excess heat. Exposure to light and Exposure to atmosphere.

11. Toxicological Information

Oral rat LD50:	305 mg/kg.
Dermal rat LD50:	1.600 mg/kg.
<u>Mutagenic Effects:</u>	Not available.
<u>Teratogenic Effects:</u>	Not available.
<u>Developmental Toxicity:</u>	Not available.
<u>Carcinogenicity:</u>	No component of this product present confirmed human carcinogen by IARC, ACGIH, OSHA, NTP.

12. Ecological Information

Very toxic to aquatic life with long lasting effects.

<u>Toxicity to fish:</u>	LC50 - Oncorhynchus mykiss (rainbow trout) - 41,2 mg/l - 96 h.
<u>Toxicity to daphnia and other aquatic invertebrates:</u>	static test EC50 - Daphnia magna (Water flea) - 1,4 mg/l - 48 h.
<u>Persistence and Degradability:</u>	Persistence is unlikely due to water solubility.
<u>Mobility:</u>	Mobility likely due to water solubility.
<u>Results of PBT and vPvB assessment:</u>	No data available for assessment.

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13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with law.

14. Transport Information

DOT-USA, Canada TDG & ADR/RID Europe:

UN number: 3241; Transport hazard class(es): 4.1; Packing group: III

UN proper shipping name: 2-Bromo-2-nitropropane-1,3-diol

IMDG & IATA:

UN number: 3241; Transport hazard class(es): 4.1; Packing group: III

UN proper shipping name: 2-Bromo-2-nitropropane-1,3-diol.

15. Regulatory Information

USA:

SARA 311/312: Acute: and Chronic as per section 2.

SARA 302 Extremely Hazardous Substance: None present in regulated quantities.

SARA 304 Emergency Release Notification: None present in regulated quantities.

SARA 313 (TRI Reporting): None present in regulated quantities.

US California Proposition 65: No ingredient regulated by CA Prop 65 present.

16. Other Information

European Labeling in Accordance with EC Directives:

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and ASES CHEMICAL WORKS assume no liability resulting from its use.