



## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Identification

#### 1.1 Product identifiers

**Product Name :** Bronopol  
**Cat No.:** AC158820000; AC158820250; AC158821000; AC158825000  
**CAS No. :** 52-51-7

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

**Recommended uses :** Laboratory chemicals  
**Uses advised against:** Food, drug, pesticide or biocidal product use.

#### 1.3 Details of the supplier of the safety data sheet

**Company :** Krishna Solvechem Limited.  
B/503, Sahayog, S. V. Road,  
Kandivali (West), Mumbai – 400067. India.  
**Telephone :** +91-22-6123 0222  
**Email :** [exports@kscl.co.in](mailto:exports@kscl.co.in)

#### 1.4 Emergency telephone number

**Emergency Phone :** +91-8657457330

### SECTION 2: Hazards identification

#### 2.1 Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	(Category 4)
Acute dermal toxicity	(Category 4)
Skin Corrosion/Irritation	(Category 2)
Serious Eye Damage/Eye Irritation	(Category 1)
Specific target organ toxicity (single exposure)	(Category 3)
Target Organs - Respiratory system.	

#### 2.2 Label elements

**Pictogram :**



**Signal word**

Danger

**Hazard statement (s)**

May form combustible dust concentrations in air



**Precautionary statement (s)**

Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation  
Harmful if swallowed or in contact with skin

**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  
Do not eat, drink or smoke when using this product

**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

**IF ON SKIN (or hair):**

If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing 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

**Ingestion**

IF SWALLOWED : Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

**Storage:**

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



<b>Hazards not otherwise classified (HNOC)</b>	<p><b>Disposal:</b> Dispose of contents/container to an approved waste disposal plant</p> <p>Very toxic to aquatic life. Toxic to aquatic life with long lasting effects</p>
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### SECTION 3: Composition / information on ingredients

**3.1**

Component	CAS-No	Weight %
2-Bromo-2-nitro-1,3-propanediol	52-51-7	<=100

### SECTION 4: First aid measures

**4.1 Description of first aid measures**

<b>General Advice:</b>	If symptoms persist, call a physician.
<b>If inhalation :</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>In case of skin contact :</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>In case of eye contact :</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Ingestion :</b>	Clean mouth with water and drink afterwards plenty of water.
<b>4.2 Most important symptoms and effects :</b>	None reasonably foreseeable. Causes severe eye damage.
<b>4.3 Notes to Physician :</b>	Treat symptomatically

### SECTION 5: Firefigh effects

**5.1 Extinguishing media**

<b>Suitable extinguishing media :</b>	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.
<b>Unsuitable Extinguishing Media: :</b>	No information available
<b>5.2 Flash Point :</b>	No information available
<b>Method :</b>	No information available



<b>Autoignition Temperature:</b>	No information available
<b>Explosion Limits:</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available
<b>Specific Hazards Arising from the Chemical :</b>	Dust can form an explosive mixture with air. Do not allow run-off from fire-fighting to enter drains or water courses. Fine dust dispersed in air may ignite.
<b>Hazardous Combustion Products :</b>	Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrogen halides. Nitrogen oxides

<b>5.4 Protective Equipment and Precautions for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.			
<b><u>NFPA:</u></b>	<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
	3	2	0	N/A

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.
<b>6.2 Environmental precautions</b>
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained..
<b>6.3 Methods and materials for containment and cleaning up</b>
Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling</b>
Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation



## 7.2 Conditions for safe storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible materials. Strong oxidizing agents. Strong bases. Strong reducing agents.

## SECTION 8: Exposure controls/personal protection

### 8.1 Exposure Guidelines

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

#### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

### 8.2 Exposure controls

#### Personal protective equipment -

##### Eye / Face protection

Tight sealing safety goggles.

##### Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

##### Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice..

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: powder solid, off white
b) Odour	Odorless
c) Odour Threshold	No information available
d) pH	5-7 1% aq.sol
e) Melting point / freezing point	128 - 132 °C / 262.4 - 269.6 °F
f) Initial boiling point and	No information available



<b>boiling range</b>	
<b>g) Flash point</b>	No information available
<b>h) Evaporation rate</b>	No information available
<b>i) Flammability (solid, gas)</b>	Not applicable
<b>j) Upper/lower flammability or explosive limits</b>	No data available No data available
<b>k) Vapour pressure</b>	No information available
<b>l) Vapour density</b>	Not applicable
<b>m) Specific Gravity</b>	1.905 g/cm <sup>3</sup> @20°C
<b>n) Solubility</b>	soluble
<b>o) Partition coefficient: n octanol/water</b>	No data available
<b>p) Auto-ignition temperature</b>	Not applicable
<b>q) Decomposition temperature</b>	90 °C.
<b>r) Viscosity</b>	Not applicable
<b>s) Molecular formula</b>	C <sub>3</sub> H <sub>6</sub> Br N O <sub>4</sub>
<b>t) Molecular Weight</b>	199.99

### SECTION 10: Stability and Reactivity

<b>10.1 Reactive Hazard :</b>	Yes
<b>10.2 Chemical stability :</b>	Stable under normal conditions.
<b>10.3 Possibility of hazardous reactions :</b>	None under normal processing.
<b>10.4 Conditions to avoid :</b>	Excess heat. Avoid dust formation
<b>10.5 Incompatible materials:</b>	Strong oxidizing agents, Strong bases, Strong reducing agents
<b>10.6 Hazardous decomposition products :</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen halides, Nitrogen oxides
<b>10.7 Hazardous Polymerization</b>	Hazardous polymerization does not occur



## SECTION 11: Toxicological information

### 11.1

#### Information on toxicological effects

#### Acute toxicity:

#### Product Information:

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Bromo-2-nitro-1,3-propanediol	LD50 = 305 mg/kg ( Rat )	LD50 = 1600 mg/kg ( Rat )	LC50 > 5 g/m <sup>3</sup> ( Rat ) 6 h

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation :** Irritating to respiratory system and skin causes (SEVERE) EYE BURNS

**Sensitization:** No information available

**Carcinogenicity :** The table below indicates whether each agency has Any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
2-Bromo-2nitro-1,3-propanediol	52-51-7	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects:** No information available.

**Reproductive Effects:** No information available.

**Developmental Effects :** No information available.

**Teratogenicity:** No information available.

**STOT - single exposure :** Respiratory system

**STOT - repeated exposure:** None known

**Aspiration hazard :** No information available.

**Symptoms / effects, both acute and delayed:** No information available

**Endocrine Disruptor Information :** No information available

**Other Adverse Effects :** The toxicological properties have not been fully investigated.



## SECTION 12: Ecological information

### 12.1

#### Ecotoxicity

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
2-Bromo-2-nitro-1,3-propane diol	Not listed	Not listed	EC50 = 0.41 mg/L 30 min EC50 = 0.50 mg/L 15 min EC50 = 0.91 mg/L 5 min	Not listed

**12.2 Persistence and degradability:** Soluble in water Persistence is unlikely based on information Available.

**Bioaccumulation/ Accumulation** No information available

**12.3 Mobility:** Will likely be mobile in the environment due to its water solubility. Log pow: 0.18

## SECTION 13: Disposal considerations

**13.1 Waste treatment 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

### 14.1 UN number :

DOT : UN3241                      TDG : UN3241  
IATA : UN3241                    IMDG : UN3241

### 14.2 UN proper shipping name

DOT : 2-BROMO-2-NITROPROPANE-1,3-DIOL  
IMDG : 2-BROMO-2-NITROPROPANE-1,3-DIOL  
IATA : 2-BROMO-2-NITROPROPANE-1,3-DIOL  
TDG : 2-BROMO-2-NITROPROPANE-1,3-DIOL

**14.3 Transport hazard class(es)** DOT: 4.1      TDG: 4.1      IMDG: 4.1      IATA: 4.1

**14.4 Packaging group:** DOT: III      TDG: III      IMDG: III      IATA: III

## SECTION 15: Regulatory information

### 15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification	TSCA - EPA Regulatory Flag
2-Bromo-2-nitro-1,3-propanediol	52-51-7	X	ACTIVE	-

**Legend:**





**TSCA - Toxic Substances Control Act, (40 CFR Part 710)**

X - Listed

'-' - Not Listed

**TSCA 12(b) - Notices of Export** Not applicable

**International Inventories:**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
2-Bromo-2-nitro-1,3-propanediol	52-51-7	X	-	200-143-0	X	X	X	X	X	KE-03691

**U.S. Federal Regulations**

**SARA 313**

Not applicable

**SARA 311/312 Hazard Categories**

See section 2 for more information

**CWA (Clean Water Act)**

Not applicable

**Clean Air Act**

Not applicable

**OSHA - Occupational Safety and Health Administration**

Not applicable

**CERCLA**

Not applicable

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**15.2 U.S. State Right-to-Know Regulations:**

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N



**U.S. Department of Homeland Security** - This product does not contain the any DHS Chemicals.

**Other International Regulations**

**Mexico – Grade** No information available  
**Authorization/Restrictions according to EU REACH**

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
2-Bromo-2-nitro-1,3-propanediol	-	Use restricted. See item 75. (see link for restriction details)	-

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Not applicable	Not applicable	Not applicable	Not applicable

**SECTION 16: Other information**

**16.1 Prepared By:** Regulatory affairs  
 Krishna Solvechem Ltd  
**Email:** [exports@kscl.co.in](mailto:exports@kscl.co.in)  
**Creation Date:** 22-Sep-2009  
**Revision Date:** 24-Dec-2021  
**Print Date:** 24-Dec-2021  
**Revision Summary:** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C FR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**16.2 Disclaimer:**



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