



CROP LIFE SCIENCE LTD.

Material safety data sheet BRONOPOL 40% SP

1. IDENTIFICATION OF COMPANY & PRODUCT

Product Name : Bronopol 40% SP
Chemical Name : 2-Bromo-2-nitropropane-1, 3-diol
Brand Name : BINATO
Users : FUNGICIDES
Molecular Formula : C3 H6 Br N O4
Manufacturer : CROP LIFE SCIENCE LTD.
Address : Plot No. 5165, 5166, 5151, G.I.D.C., Ankleshwar-393002
Gujarat, India
Tele Fax Number : 91 2646 238479

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Percent Or Content(W/W)
Bronopol	52-51-7	40.00 %

3. HEALTH HAZARDS IDENTIFICATION

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.

Skin

IF ON SKIN: Wash with plenty of soap and water Call a POISON CENTER or doctor/physician if you feel unwell

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing immediately call a POISON CENTER or doctor/physician.

Ingestion

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



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4. FIRST AID MEASURES

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms/effects Causes eye burns.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific Hazards Arising from the Chemical Dust can form an explosive mixture in air. Do not allow run-off from firefighting to enter drains or water courses.

Hazardous Combustion Products Nitrogen oxides (NO_x) Carbon monoxide (CO) Carbon dioxide (CO₂) Hydrogen halides.

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

Environmental Precautions 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. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean up Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.



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7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Eye/face Protection Tightly fitting safety goggles.

Skin and body protection Long sleeved clothing.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Powder Solid

Appearance : Off-white

pH : 5-7 1% aq.sol

Odor : Odorless

Melting Point/Range : > 120 °C / 248 °F

Stability in water : soluble

10. STABILITY AND REACTIVITY

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Avoid dust formation.

Incompatible Materials Strong oxidizing agents, Strong bases, Strong reducing agents.



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Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Decomposition Products	Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO ₂), Hydrogen halides.
Hazardous Reactions	None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Acute oral toxicity (LD50): 180 mg/kg [Rat].
Acute dermal toxicity (LD50): 64 mg/kg [Rat].
Acute toxicity of the dust (LC50): 800 mg/m³ 4 hours [Rat].

Chronic Effects on Humans: May cause damage to the following organs: kidneys, skin, central nervous system (CNS).

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (sensitizer, permeate).

Acute Potential Health Effects:

Skin: Causes skin irritation. May cause dermatitis, an allergic reaction. May be harmful if absorbed through skin and cause systemic effects similar that of ingestion or inhalation.

Eyes: Causes eye irritation. May cause conjunctivitis and corneal damage. Corneal damage may result in permanent impairment of vision, even blindness.

Inhalation: Causes respiratory tract and mucous membrane irritation. Can cause dizziness, ataxia, somnolence, difficulty breathing or suffocation. Aspiration may lead to pulmonary edema. May cause conjunctivitis of the eyes.

Ingestion: Harmful if swallowed. Causes gastritis, nausea, vomiting, diarrhea, weight loss, ulceration or bleeding from the stomach. May affect respiration (difficulty breathing, respiratory depression), behavior/central nervous system (dizziness, ataxia, somnolence, and coma), and kidneys.

Chronic Potential Health Effects:

Skin: Prolonged or repeated skin contact may cause dermatitis.

Inhalation and Ingestion: Prolonged or repeated inhalation or ingestion may cause nausea, and vomiting, and other symptoms similar to that of acute ingestion or inhalation. Prolonged or repeated ingestion may also cause weight loss, ulceration and bleeding from the stomach, and affect the salivary glands, kidneys, and thymus.



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12. ECOLOGICAL INFORMATION

Ecotoxicity Not available.

BOD5 and COD Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the product itself.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method : Do not empty into drains or waterways. Disposal of product would usually be by incineration in an appropriate licensed commercial incinerator. Advice may be obtained from local waste regulation authorities.

Container Disposal Method : Lightly contaminated packaging may be accepted for landfill, otherwise incineration will be required.

14. TRANSPORT INFORMATION

Rail/Road (RID/ADR)

Proper Shipper Name : 2-BROMO-2-NITROPROPANE-1,3-DIOL

Class : 4.1

UN No. : UN3241

Packing Group : III

Sea (IMDG – Code)

Proper Shipper Name : 2-BROMO-2-NITROPROPANE-1,3-DIOL

Class : 4.1

UN No. : UN3241

Packing Group : III

Marine Pollutant : Yes

Air (ICAO/IATA)

Proper Shipper Name : 2-BROMO-2-NITROPROPANE-1,3-DIOL

Class : 4.1

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Packing Group : III



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15. REGULATORY INFORMATION

Safety, health and environmental regulations: product is not subject to any additional regulations or provisions

R20 Harmful by inhalation.

R21 Harmful in contact with skin.

R22 Harmful if swallowed.

R37 Irritating to respiratory system.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R50 Very toxic to aquatic organisms.

16. OTHER INFORMATION

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 we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages.

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