

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 01, 2019

Revision: February 28, 2019

1 Identification

- **Product identifier**
- **Trade name:** Bioban Plus
- **Product code:** BP7020
- **CAS Number:**
52-51-7
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331
Phone: (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
- Acute Tox. 4 H302 Harmful if swallowed.
- Acute Tox. 4 H312 Harmful in contact with skin.
- Acute Tox. 3 H331 Toxic if inhaled.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Dam. 1 H318 Causes serious eye damage.
- STOT SE 3 H335 May cause respiratory irritation.
- Combustible Dust May form combustible dust concentrations in air.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS05 GHS06 GHS07

- **Signal word:** Danger
- **Hazard statements:**
H302+H312 Harmful if swallowed or in contact with skin.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.

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H335 May cause respiratory irritation.
May form combustible dust concentrations in air.

· **Precautionary statements:**

P261 Avoid breathing dust.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
P330 Rinse mouth.
P302+P352 If on skin: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove person to fresh air and keep 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.
P310 Immediately call a poison center/doctor.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**
52-51-7 bronopol (INN)

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:**

Supply fresh air.

Provide oxygen treatment if affected person has difficulty breathing.

If experiencing respiratory symptoms: Call a doctor.

· **After skin contact:**

Brush off loose particles from skin.

Wash with soap and water.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

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- **Most important symptoms and effects, both acute and delayed:**
 - Breathing difficulty
 - Coughing
 - Irritant to skin and mucous membranes.
 - Strong irritant with the danger of severe eye injury.
 - May cause respiratory irritation.
 - Gastric or intestinal disorders when ingested.
 - Nausea in case of ingestion.
- **Danger:**
 - Danger of impaired breathing.
 - Causes serious eye damage.
 - Harmful if swallowed.
 - Harmful in contact with skin.
 - Toxic if inhaled.
- **Indication of any immediate medical attention and special treatment needed:**
 - Medical supervision for at least 48 hours.
 - If necessary oxygen respiration treatment.
 - Later observation for pneumonia and pulmonary edema.
 - If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**
 - During heating or in case of fire poisonous gases are produced.
 - May form combustible dust concentrations in air.
 - Flammable solid.
- **Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- **Additional information:** Cool endangered containers with water fog.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - Avoid formation of dust.
 - Ensure adequate ventilation.
 - Wear protective equipment. Keep unprotected persons away.
 - Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions**
 - Do not allow to enter sewers/ surface or ground water.
 - Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up**
 - Pick up mechanically.
 - Sweep up and place into an appropriate container.

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Send for recovery or disposal in suitable receptacles.

· 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.

7 Handling and storage

· Handling**· Precautions for safe handling:**

Prevent formation of dust.

Use only in well ventilated areas.

Any deposit of dust which cannot be avoided must be regularly removed.

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

· Information about protection against explosions and fires: No special measures required.**· Conditions for safe storage, including any incompatibilities****· Requirements to be met by storerooms and receptacles:** Avoid storage near extreme heat.**· Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with acids.

Store away from oxidizing agents.

· Further information about storage conditions:

Keep containers tightly sealed.

Store in dry conditions.

· Specific end use(s) No relevant information available.

8 Exposure controls/personal protection

· Control parameters**· Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· Exposure controls**· General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid breathing dust.

Avoid contact with the eyes and skin.

· Engineering controls: Provide adequate ventilation.**· Breathing equipment:**

Use suitable respiratory protective device when high concentrations are present.

Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.

· Protection of hands:

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Protective gloves

· **Material of gloves**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Natural rubber, NR

Nitrile rubber, NBR

Neoprene gloves

Sensibilization by the components in the glove materials is possible.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**

No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**

Form: Crystalline

Color: White

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Melting point/Melting range:** 126-129 °C (258.8-264.2 °F)

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** The product is not flammable.

· **Flammability (solid, gaseous):** Flammable solid.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** May form combustible dust concentrations in air.

· **Explosion limits**

Lower: Not determined.

Upper: Not determined.

· **Oxidizing properties:** Non-oxidizing.

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- | | |
|---|------------------------------------|
| · Vapor pressure: | Not determined. |
| · Density: | |
| Relative density: | Not determined. |
| Vapor density: | Not applicable. |
| Evaporation rate: | Not applicable. |
| · Solubility in / Miscibility with Water at 23 °C (73.4 °F): | 250 g/l
Soluble. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Other information | No relevant information available. |

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with oxidizing agents.
Reacts with strong acids.
- **Conditions to avoid** Excessive heat.
- **Incompatible materials**
Oxidizers, strong bases, strong acids
Reducing agents.
- **Hazardous decomposition products**
Under fire conditions only:
Bromine compounds
Carbon monoxide and carbon dioxide
Nitrogen oxides

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
Toxic if inhaled.
Harmful if swallowed.
Harmful in contact with skin.
- **LD/LC50 values that are relevant for classification:**
- **ATE (Acute Toxicity Estimate)**

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Oral	LD50	305 mg/kg (rat)
Inhalative	LC50/4h	0.59 mg/l (rat)

- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

Substance is not listed.

· **NTP (National Toxicology Program):**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

Substance is not listed.

· **Probable route(s) of exposure:**

Ingestion.
Inhalation.
Eye contact.
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

May cause respiratory irritation.
Harmful if swallowed.
Toxic if inhaled.
Harmful in contact with skin.
Causes serious eye damage.

· **Repeated dose toxicity:** No relevant information available.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Based on available data, the classification criteria are not met.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** May cause respiratory irritation.

· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity**

Toxic for aquatic organisms

52-51-7 bronopol (INN)

EC50 | 1.4 mg/kg (daphnia)

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Very toxic for fish

· **Additional ecological information**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.

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

Very toxic for aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT, ADR/RID/ADN, IMDG, IATA** UN3241

· **UN proper shipping name**

· **DOT, IMDG, IATA**

2-BROMO-2-NITROPROPANE-1,3-DIOL

· **ADR/RID/ADN**

3241 2-BROM-2-NITROPROPAN-1,3-DIOL

· **Transport hazard class(es)**

· **DOT**



· **Class**

4.1

· **Label**

4.1

· **ADR/RID/ADN**



· **Class**

4.1 (SR1)

· **Label**

4.1

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· **IMDG, IATA**



· **Class** 4.1
· **Label** 4.1

· **Packing group**

· **DOT, ADR/RID/ADN, IMDG, IATA** III

· **Environmental hazards** Not applicable.

· **Special precautions for user** Warning: Flammable solids, self-reactive substances and solid desensitised explosives

· **Danger code (Kemler):** -
· **EMS Number:** 4.1-05

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**
· **Quantity limitations** On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 302 (extremely hazardous substances):**

Substance is not listed.

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

· **TSCA (Toxic Substances Control Act)**

Substance is listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity for females:**

Substance is not listed.

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· **Chemicals known to cause developmental toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **EPA (Environmental Protection Agency):**

Substance is not listed.

· **IARC (International Agency for Research on Cancer):**

Substance is not listed.

· **Canadian Domestic Substances List (DSL) (Substances not listed.):**

Substance is listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health Administration

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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