



Brotabs

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)
Issue date: 27 October 2023

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Trade name : Brotabs
Product code : 955

1.2. Recommended use and restrictions on use

Recommended use : Laboratory use

1.3. Supplier

Advanced Instruments LLC
2 Technology Way
Norwood, Massachusetts 02062
1 (781) 320-9000
info@aicompanies.com

1.4. Emergency telephone number

Emergency number : 1 (877) 740-5015

SECTION 2: Hazard identification



2.1. Classification of the substance or mixture

Classification (GHS CA)

Acute toxicity (oral), Category 4	Harmful if swallowed.
Skin corrosion/irritation, Category 2	Causes skin irritation.
Serious eye damage/eye irritation, Category 1	Causes serious eye damage.
Combustible Dust	May form combustible dust concentrations in air

2.2. GHS Label elements, including precautionary statements

GHS CA labelling

Hazard pictograms (GHS CA)	:  
Signal word (GHS CA)	: Danger
Hazard statements (GHS CA)	: May form combustible dust concentrations in air Harmful if swallowed. Causes skin irritation. Causes serious eye damage.
Precautionary statements (GHS CA)	: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product Wear eye protection, protective gloves IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN: Wash with plenty of water. 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. Rinse mouth. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

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Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

other hazards which do not result in classification : Very toxic to aquatic life.

2.4. Unknown acute toxicity (GHS CA)

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
bronopol (INN); 2-bromo-2-nitropropane-1,3-diol	bronopol (INN); 2-bromo-2-nitropropane-1,3-diol	CAS-No.: 52-51-7	10 - 30*	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335

**The actual concentration range is withheld as a trade secret.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Obtain medical attention if breathing difficulty persists.
First-aid measures after skin contact	: Rinse immediately with plenty of water for 15 minutes. Take off contaminated clothing. Seek medical attention if ill effect or irritation develops.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse eye with clean water for 20-30 minutes, retracting eyelids often. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell.
First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible).

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

Note to physician : : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use a heavy water stream.

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5.3. Specific hazards arising from the hazardous product

- Fire hazard : Thermal decomposition may produce : Hydrogen bromide. Nitrogen oxides. Sodium oxides (NaOx). Carbon oxides (CO, CO₂).
- Explosion hazard : Potential dust explosion hazard from airborne release. Dust could be formed as a result of granule degradation by impact or by abrasion during handling, grinding, or conveying operations.
- Hazardous decomposition products in case of fire : Thermal decomposition can lead to the release of irritating gases and vapours.

5.4. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
- Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Evacuate unnecessary personnel. Avoid contact with skin and eyes. If dust are formed : Avoid raising powdered materials into airborne dust. May form combustible dust concentrations in air.
- Personal Precautions, Protective Equipment and Emergency Procedures : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
- Prevention Measures for Secondary Accidents : Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

- For containment : Contain and collect as any solid. Avoid creating or spreading dust.
- Methods for cleaning up : Mechanically recover the product. Avoid raising powdered materials into airborne dust. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Store away from other materials.
- Other information : Dispose of in a safe manner in accordance with local/national regulations.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid dust formation. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Use good personal hygiene practices. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Handle in accordance with good industrial hygiene and safety procedures.
- Additional hazards when processed : May form combustible dust concentrations in air.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Provide adequate ventilation to minimize dust concentrations. If dust are formed : Keep away from sources of ignition.
- Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.
- Incompatible materials : Strong acids and oxidants. Reducing agents. Bases. Aluminium. Iron. Acid chlorides. Acid anhydrides.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Stearic acid (57-11-4)	
Canada (Quebec) - Occupational Exposure Limits	
Local name	Stearates
VEMP (OEL TWA)	10 mg/m ³ (Stearates)
Regulatory reference	S-2.1, r. 13 - Regulation respecting occupational health and safety
Canada (British Columbia) - Occupational Exposure Limits	
Local name	Stearates
OEL TWA	10 mg/m ³ (does not include Stearates of toxic metals-inhalable (Stearates) 3 mg/m ³ (does not include Stearates of toxic metals-respirable (Stearates)
Notations and remarks	Does not include stearates of toxic metals
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
Canada (Manitoba) - Occupational Exposure Limits	
Local name	Stearic acid
OEL TWA	10 mg/m ³ (inhalable particulate matter (Stearates) 3 mg/m ³ (respirable particulate matter (Stearates)
Notations and remarks	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2023
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
Local name	Stearic acid
OEL TWA	10 mg/m ³ (inhalable particulate matter (Stearates) 3 mg/m ³ (respirable particulate matter (Stearates)
Notations and remarks	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2023
Canada (Nova Scotia) - Occupational Exposure Limits	
Local name	Stearic acid
OEL TWA	10 mg/m ³ (inhalable particulate matter (Stearates) 3 mg/m ³ (respirable particulate matter (Stearates)
Notations and remarks	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2023
Canada (Ontario) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (except stearates of toxic metals-inhalable particulate matter) 3 mg/m ³ (except stearates of toxic metals-respirable particulate matter)
Canada (Prince Edward Island) - Occupational Exposure Limits	
Local name	Stearic acid
OEL TWA	10 mg/m ³ (inhalable particulate matter (Stearates) 3 mg/m ³ (respirable particulate matter (Stearates)
Notations and remarks	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)

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Stearic acid (57-11-4)	
Regulatory reference	ACGIH 2023
USA - ACGIH - Occupational Exposure Limits	
Local name	Stearic acid
ACGIH OEL TWA	10 mg/m ³ (I - Inhalable particulate matter) 3 mg/m ³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2023

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear suitable respiratory equipment in case of insufficient ventilation. Respiratory protective device with a particle filter. P2

Other information:

Do not eat, drink or smoke when using this product. Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Tablet.
Colour	: Purple Pink
Odour	: Odourless
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: No data available
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Explosive limits	: Not applicable

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9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reactions known under normal conditions of use.

Conditions to avoid : Avoid dust formation. Eliminate all sources of ignition.

Incompatible materials : Strong acids and oxidants. Reducing agents. Bases. Aluminium. Iron. Acid chlorides. Acid anhydrides.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition may produce : Hydrogen bromide. Nitrogen oxides. Sodium oxides (NaOx). Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Brotabs	
ATE CA (oral)	1971 mg/kg bodyweight
bronopol (INN); 2-bromo-2-nitropropane-1,3-diol (52-51-7)	
LD50 oral	180 mg/kg bodyweight
LD50 dermal	1600 mg/kg bodyweight
LC50 Inhalation - Rat (Dust/Mist)	> 5000 mg/l

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

bronopol (INN); 2-bromo-2-nitropropane-1,3-diol (52-51-7)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Brotabs	
Viscosity, kinematic	Not applicable

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : May be harmful if swallowed.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life.

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bronopol (INN); 2-bromo-2-nitropropane-1,3-diol (52-51-7)	
LC50 - Fish [1]	26.4 mg/l
EC50 - Crustacea [1]	1.4 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	1.4 mg/l waterflea
EC50 - Other aquatic organisms [2]	0.4 mg/l
ErC50 algae	0.02 mg/l Source: NCIS
EC50 72h - Algae [1]	0.25 mg/l Test organisms (species): Skeletonema costatum
EC50 72h - Algae [2]	0.37 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC chronic fish	21.5 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '49 d'
NOEC (chronic)	0.27 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
LOEC (chronic)	0.88 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

Brotabs	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Brotabs	
Bioaccumulative potential	Not established.

bronopol (INN); 2-bromo-2-nitropropane-1,3-diol (52-51-7)	
Partition coefficient n-octanol/water (Log Pow)	0.18

12.4. Mobility in soil

bronopol (INN); 2-bromo-2-nitropropane-1,3-diol (52-51-7)	
Mobility in soil	388.3 – 1416 Source: ECHA

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
 Product/Packaging disposal recommendations : Dispose of in accordance with relevant local regulations.
 Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information





In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
14.1. UN number			
UN3241	3241	3241	3241

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TDG	DOT	IMDG	IATA
14.2. Proper Shipping Name			
2-BROMO-2-NITROPROPANE-1,3-DIOL	2-Bromo-2-nitropropane-1,3-diol	2-BROMO-2-NITROPROPANE-1,3-DIOL	2-Bromo-2-nitropropane-1,3-diol
14.3. Transport hazard class(es)			
4.1	4.1	4.1	4.1
			
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
<p>Consult the associated transport regulations for available and applicable exceptions or exemptions.</p> <p>The suitable shipping classification must be evaluated at the time of shipment due to the possibility for variations in regard to the transportation of this material considering the requirements, modes of transport, packaging, packaging configuration, quantity etc. Please consult the appropriate regulation for specific shipping information and requirements.</p> <p>This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation information can be obtained through the authorized transporting corporation. It is the responsibility of the transporting corporation to follow all applicable laws, regulations and rules relating to the transportation of this product.</p>			

SECTION 15: Regulatory information

15.1. National regulations

bronopol (INN); 2-bromo-2-nitropropane-1,3-diol (52-51-7)**Listed on the Canadian DSL (Domestic Substances List)**

15.2. International regulations

bronopol (INN); 2-bromo-2-nitropropane-1,3-diol (52-51-7)**Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active****Listed on INSQ (Mexican National Inventory of Chemical Substances)**

SECTION 16: Other information

Issue date : 23 June 2023

Other information : None.

Safety Data Sheet (SDS), Canada

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.