



SAFETY DATA SHEET

Preparation Date: 11/13/2018 Revision Date: 11/13/2018 Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: B2294

Product Name: 2-BROMO-2-NITRO-1,3-PROPANEDIOL

Other means of identification

Synonyms: 2-Bromo-2-nitropropan-1,3-diol

2-Bromo-2-nitropropane-1,3-diol

2-Bronopol Bronidiol Bronopol

CAS #: 52-51-7
RTECS # TY3385000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use:
Uses advised against
No information available.
No information available

Supplier: Spectrum Chemical Mfg. Corp

14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000

Order Online At: https://www.spectrumchemical.com

Emergency telephone numberChemtrec 1-800-424-9300Contact Person:Martin LaBenz (West Coast)Contact Person:Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Flammable solids	Category 2

Label elements

Product code: B2294 Product name: 2-BROMO-2-NITRO-1,3-PROPANEDI

Danger

Hazard statements

Toxic if swallowed Toxic if inhaled

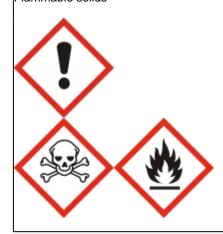
Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

May cause an allergic skin reaction

Flammable solids



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful in contact with skin

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves

Wear protective clothing

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Contaminated work clothing must not be allowed out of the workplace

Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting/.../equipment

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam to extinguish.

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.

IF ON SKIN: Wash with plenty of water

Take off contaminated clothing and wash it before reuse

If skin irritation or rash occurs: Get medical advice/attention

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

Precautionary Statements - Storage

Store locked up

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

Precautionary Statements - Disposal

Product code: B2294 Product name: 2-BROMO-2-NITRO-1,3-PROPANEDI

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
2-Bromo-2-nitro-1,3-propanediol	52-51-7	100

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you

have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect

himself.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and

shoes. Get medical attention.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention.

Inhalation: Toxic by inhalation. Move to fresh air. If breathing is difficult, give oxygen. If not breathing,

give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or Poison

Control Centre immediately.

Ingestion: Toxic if swallowed. Do not induce vomiting without medical advice. Never give anything by

mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms Causes serious eye irritation

Moderate eye irritation Causes skin irritation Moderate skin irritation

May cause an allergic skin reaction Irritating to respiratory system May cause nausea and vomiting

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Product code: B2294

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO2). Water spray mist or

foam.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter

billisticable Extinguishing Media.

Product name: 2-BROMO-2-NITRO-1,3-PROPANEDI

and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide. Nitrogen Oxides.

Hydrogen bromide.

Specific hazards: Flammable solid.

Special Protective Actions for Firefighters

Specific Methods: For larger fires, use water spray or fog. Cool containers

with flooding quantities of water until well after fire is out.

Special Protective Equipment 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, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid

contact with skin, eyes and clothing. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent

spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Clean contaminated

surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe dust. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:

Product code: B2294 Product name: 4 / 13

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
2-Bromo-2-nitro-1,3-pro	52-51-7	None	None	None	None
panediol					

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
2-Bromo-2-nitro-1,3-pro panediol	52-51-7	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
2-Bromo-2-nitro-1,3-propanediol	52-51-7	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Goggles or Safety glasses with side-shields. Eye protection:

Skin and body protection: Long sleeved clothing

Chemical resistant apron

Gloves

Effective dust mask. or. Wear respirator with dust filter. Use a dust respirator Respiratory protection:

under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds), inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to

use an approved/certified respirator or equivalent.

Avoid contact with skin, eyes and clothing. When using, do not eat, drink or Hygiene measures:

smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Product code: B2294 **Product name:** 2-BROMO-2-NITRO-1,3-PROPANEDI

Appearance: Physical state: Color: Crystalline. Solid White. Beige.

Odor: **Taste** Formula:

No information available. Odorless. C3H6BrNO4

Molecular/Formula weight (g/mole): Flammability: Flashpoint (°C/°F): 167 °C/333 °F 199.99 Flammable solid

Flash Point Tested according to: Autoignition Temperature (°C/°F):

No information available No information available Not available

Upper Explosion Limit (%): Melting point/range(°C/°F): Decomposition temperature(°C/°F):

Lower Explosion Limit (%):

130-133 °C/266-271 °F No information available No information available

Boiling point/range(°C/°F): **Bulk density:** Density (g/cm3): No information available No information available No information available

:Ha Vapor pressure @ 20°C (kPa): Specific gravity:

No information available No information available No information available

VOC content (q/L): **Evaporation rate:** Vapor density: No information available No information available No information available

Odor threshold (ppm): Partition coefficient Viscosity:

No information available (n-octanol/water): No information available

log Kow = -0.64

Miscibility: Solubility:

No information available Soluble in Water

Soluble in Alcohol Soluble in ethyl acetate Slightly soluble in chloroform Slightly soluble in Acetone Slightly soluble in Ether Slightly soluble in Benzene

10. STABILITY AND REACTIVITY

Reactivity

No information available

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Heat. Ignition sources. Exposure to moisture. Exposure to moist air. Incompatible Conditions to avoid:

materials.

Incompatible Materials: Strong oxidizing agents

Strong bases

Strong reducing agents

Hazardous decomposition

Carbon monoxide. Hydrogen Bromide. Nitrogen oxides (NOx).

products:

Product code: B2294 **Product name:** 6/13

2-BROMO-2-NITRO-1,3-PROPANEDI

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation. Skin.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document Component Information

2-Bromo-2-nitro-1,3-propanediol

CAS-No.

52-51-7

LD50/oral/rat = 180 mg/kg Oral LD50 Rat

LD50/oral/mouse = No information available

LD50/dermal/rabbit = >2000 mg/kg

LD50/dermal/rat = 1600 mg/kg LD50 dermal Rat

LC50/inhalation/rat = > 5 g/m³ Inhalation LC50 Rat 6 hr; 800 mg/m³ Inhalation LC50 Rat 4 hr

LC50/inhalation/mouse = No information available

Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 180 mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = No information available

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = > 2000 mg/kg

LD50/dermal/rat

VALUE -Acute Tox Dermal = 1600 mg/kg

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = 0.8 mg/l (4-hr.)

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation. Moderately irritating to the skin. May be harmful in contact

with skin.

Product code: B2294 Product name:

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Eye Contact: Causes serious eye irritation. Moderately irritating to the eyes.

Inhalation Toxic by inhalation. Irritating to respiratory system.

Ingestion Toxic if swallowed. Ingestion may cause nausea, vomiting. May affect respiration

(dyspnea - difficulty breathing and shortness of breath). May affect urinary system

(kidneys). May affect respiration (dyspnea, respiratory depression).

Aspiration hazard No information available.

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

Chronic Toxicity Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis).

Sensitization: May cause sensitization by skin contact.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic	Australia - Prohibited Carcinogenic
						Substances	Substances
2-Bromo-2-nitro-1,3-propane diol	52-51-7	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure
STOT - repeated exposure
Target Organs:

Respiratory system.
No information available.
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: Potential for bioconcentration in aquatic organisms is low.

Product code: B2294 Product name: 8 / 13

Mobility:

It is expected to have very high mobility based on estimated Koc.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
2-Bromo-2-nitro-1,3-propanedi ol	52-51-7	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN3241

Proper Shipping Name: 2-Bromo-2-nitropropane-1,3-diol

Hazard Class: 4.

Subsidiary Class No information available

Packing group: III Emergency Response Guide 133

Number

Marine Pollutant No data available DOT RQ (lbs): No information available

Special Provisions 46, IB8, IP3

Symbol(s): No information available

Description: UN3241, 2-Bromo-2-nitropropane-1,3-diol, 4.1, III

TDG (Canada)

UN-No: UN3241

Proper Shipping Name: 2-Bromo-2-nitropropane-1,3-diol

Hazard Class: 4.

Subsidiary Risk: No information available

Packing Group:

Marine Pollutant No Information available

Description: UN3241, 2-Bromo-2-nitropropane-1,3-diol, 4.1, III

ADR

UN-No: UN3241

Proper Shipping Name: 2-Bromo-2-nitropropane-1,3-diol

Hazard Class: 4.1 Packing Group:

Subsidiary Risk: No information available

Special Provisions 638

Description: UN3241, 2-Bromo-2-nitropropane-1,3-diol, 4.1, III, ENVIRONMENTALLY

HAZARDOUS

IMO / IMDG

UN-No: UN3241

Proper Shipping Name: 2-Bromo-2-nitropropane-1,3-diol

Hazard Class: 4.1

Product code: B2294 Product name: 9 / 13

Subsidiary Risk: No information available

Packing Group:

Marine Pollutant No information available

EMS: F-J

Description UN3241, 2-Bromo-2-nitropropane-1,3-diol, 4.1, III, Marine pollutant

RID

UN-No: UN3241

Proper Shipping Name: 2-Bromo-2-nitropropane-1,3-diol

Hazard Class: 4.1

Subsidiary Risk: No information available

Packing Group: III
Special Provisions 638

Description: UN3241, 2-Bromo-2-nitropropane-1,3-diol, 4.1, III, ENVIRONMENTALLY

HAZARDOUS

ICAO

UN-No: UN3241

Proper Shipping Name: 2-Bromo-2-nitropropane-1,3-diol

Hazard Class: 4.1

Subsidiary Risk: No information available

Packing Group: III

Description: UN3241, 2-Bromo-2-nitropropane-1,3-diol, 4.1, III

Special Provisions A20

IATA

UN-No: UN3241

Proper Shipping Name: 2-Bromo-2-nitropropane-1,3-diol

Hazard Class: 4.1

Subsidiary Risk: No information available

Packing Group: III ERG Code: 3L

Special Provisions No information available

Description: UN3241, 2-Bromo-2-nitropropane-1,3-diol, 4.1, III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
2-Bromo-2-nitro-1,3-pr	52-51-7	PresentACTIV	Present	Present	Present	Present	Present	Present
opanediol		E	KE-03691		(2)-325			200-143-0

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male	Female
				Reproductive	Reproductive
				Toxicity	Toxicity:
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
2-Bromo-2-nitro-1,3 -propanediol	52-51-7	None	None	None	None	None

U.S. TSCA

Components		, ,	TSCA 8(d) -Health and Safety Reporting
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject
		to Mandatory Reporting
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Product code: B2294

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Acute toxicity - Oral - Acute Tox. 4:
		H302 Harmful if swallowed. (Minimum
		classification); Acute toxicity - Dermal -
		Acute Tox. 4: H312 Harmful in contact
		with skin. (Minimum classification);
		Skin corrosion/irritation - Skin Irrit. 2:
		H315 Causes skin irritation.; Serious
		Eye Damage/Eye Irritation - Eye Dam.
		1: H318 Causes serious eye damage.;
		Specific target organ toxicity - Single
		exposure - STOT SE 3: H335 May
		cause respiratory irritation.; Hazardous
		to aquatic environment - acute hazard
		- Aquatic Acute 1: H400 Very toxic to

Product name: 2-BROMO-2-NITRO-1,3-PROPANEDI

	aquatic life. (M Factor: 10)603-085-00-8
--	--

EU - CLP (1272/2008)

R-phrase(s)

R50 - Very toxic to aquatic organisms.

R41 - Risk of serious damage to eyes.

R21/22 - Harmful in contact with skin and if swallowed.

R37/38 - Irritating to respiratory system and skin.

S -phrase(s)

none

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
2-Bromo-2-nitro-1,3-prop anediol		Xn; R21/22 Xi; R37/38-41 N; R50	2.5%<=C N; R50	S: (2)-26-36/37/39-61

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful.

Xi - Irritant.

N - Dangerous for the environment.







16. OTHER INFORMATION

Preparation Date:11/13/2018Revision Date:11/13/2018Prepared by:Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

Product code: B2294 **Product name:** 2-BROMO-2-NITRO-1,3-PROPANEDI

End of Safety Data Sheet