SAFETY DATA SHEET

Printed: 03/04/2019
Revision: 09/10/2018
Supersedes Revision: 08/17/2018

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **BIONIX BP25**

Company Name: Isomeric Industries Inc.
3400 Research Forest Drive, Suite B4
The Woodlands, TX 77381

Phone Number: (678)713-4275

Web site address: www.isomericindustries.com

Email address: info@isomericindustries.com

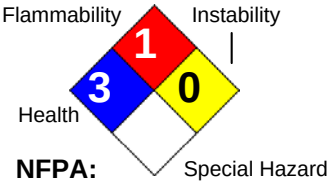
Emergency Contact: INFOTRAC United States & Canada (800)535-5053

Hazard Rating System:

HMIS:

HEALTH	3
FLAMMABILITY	1
PHYSICAL	0
PPE	H

NFPA:



2. HAZARDS IDENTIFICATION

Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 1
Acute Toxicity: Oral, Category 4
Acute Toxicity: Inhalation, Category 4
Specific Target Organ Toxicity (single exposure), Category 3
Self-Reactive Substances, Type D

GHS Signal Word: **Danger**

GHS Hazard Phrases:
H242 - Heating may cause a fire.
H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.

GHS Precautionary Phrases:
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P220 - Keep away from combustible materials.
P234 - Keep only in original container.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands 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.
P235 - Keep cool.

GHS Response Phrases:
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352 - IF ON SKIN: Wash with plenty of soap and water.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338 - 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 or doctor/physician.
P321 - Specific treatment see ... on this label.
P330 - Rinse mouth.
P332+313 - If skin irritation occurs, get medical advice/attention.
P362 - Take off contaminated clothing and wash before re-use.

GHS Storage and Disposal Phrases: P403+233 - Store container tightly closed in well-ventilated place.
P405 - Store locked up.
P411 - Store at temperatures not exceeding ...°C/...°F.
P420 - Store away from other materials.
P501 - Dispose of contents/container to ...

Potential Health Effects (Acute and Chronic): Causes mild skin irritation. Harmful if inhaled. Harmful if swallowed. Causes eye irritation.

Inhalation: No hazard expected in normal industrial use.

Skin Contact: Non-irritating to the skin.

Eye Contact: Non-irritating to the eyes.

Ingestion: No hazard expected in normal industrial use.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	
52-51-7	2-Bromo-2-nitropropane-1,3-diol	20.0 -30.0 %	
57-55-6	Propylene glycol	5.0 -15.0 %	
7732-18-5	Water	Balance	

4. FIRST AID MEASURES

Emergency and First Aid Procedures: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First Aid responders should pay attention to self-protection and use the recommended protective clothing.

In Case of Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. If by mouth to mouth use rescuer protection (pocket mask etc). If breathing is difficult, give oxygen. Call a poison control center or doctor for treatment advice.

In Case of Skin Contact: Take off immediately all contaminated clothing. Wash with plenty of water, then with soap and water for 15 minutes. Call a poison control center or doctor for treatment advice. Wash contaminated clothing before re-use. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be available in work area.

In Case of Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable eye wash facility should be immediately available.

In Case of Ingestion: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomitting unless directed to do so by medical personnel. Never give anything by mouth if victim is unconscious.

Signs and Symptoms Of Exposure: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed: No data available.

Note to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Pt: > 148.00 C (298.4 F) Method Used: Pensky-Marten Closed Cup

Explosive Limits: LEL: UEL:

Autoignition Pt:

Suitable Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable Extinguishing Media: No data available.

Fire Fighting Instructions: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Flammable Properties and Hazards: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products: nitrogen oxides. Carbon Dioxide and Carbon Monoxide. Bromine compounds such HBR and Br2.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Steps To Be Taken In Case Material Is Released Or Spilled: Sweep up and shovel. Keep in suitable, closed containers for disposal. Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Keep out of reach of children. Do not swallow. Avoid breathing dust, mist, or vapor. Avoid contact with skin and eyes. Provide ventilation. Wash thoroughly after handling.

Precautions To Be Taken in Storing: Keep container tightly closed in a dry and well-ventilated place.
Avoid extreme temperatures. Do not expose to direct sunlight or ultraviolet light. Avoid sulfur containing rubber. Store away from incompatible material.
Shelf life: Use within 24 Months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
52-51-7	2-Bromo-2-nitropropane-1,3-diol			
57-55-6	Propylene glycol			

7732-18-5	Water			

Personal Protective Equipment Symbols:

Respiratory Equipment (Specify Type): If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Eye Protection: Face shield and safety glasses.

Protective Gloves: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact.
Material: Nitrile rubber, Minimum layer thickness: 0.11 mm, Break through time: 480 min.

Other Protective Clothing: Chemical resistant apron.

Engineering Controls (Ventilation etc.): Use local exhaust ventilation to keep airborne concentrations low when handling this product. Keep away from sources of ignition. Facilities storing or using this product should be equipped with an eye wash station and safety shower.

Work/Hygienic/Maintenance Practices: Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [ ] Gas [X] Liquid [ ] Solid

Appearance and Odor: Appearance: Liquid.
Color: Colorless to yellow.
Odor: Mild odor.

pH:

Freezing Point/Pour Point: NA

Boiling Point: NA

Flash Pt: > 148.00 C (298.4 F) Method Used: Pensky-Marten Closed Cup

Evaporation Rate: NA

Flammability (solid, gas): Not applicable.

Explosive Limits: LEL: UEL:

Vapor Pressure (vs. Air or mm Hg): NA

Vapor Density (vs. Air = 1): NA

Specific Gravity (Water = 1):	NA
Solubility in Water:	NA
Saturated Vapor Concentration:	NA
Octanol/Water Partition Coefficient:	
Autoignition Pt:	
Decomposition Temperature:	
Viscosity:	NA

10. STABILITY AND REACTIVITY

Reactivity:	No data available.
Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	Stable under recommended storage conditions. Avoid temperatures above 100C (212F). Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight.
Incompatibility - Materials To Avoid:	Oxidizing materials. Amines, Bases, Alkali metals, Acids. Strong oxidizers. Strong acids, Strong reducing agents, Avoid contact with metals such as: Aluminum, Brass, Copper, Tin, Galvanized metals, Iron, Mild steel.
Hazardous Decomposition or Byproducts:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes, Formaldehyde, Hydrogen bromide, Ketones, Nitrogen oxides, Organic acids, Toxic flammable gases and heat are released under decomposition.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:

CAS# 52-51-7: 2-Bromo-2-nitropropane-1,3-diol: Acute toxicity, LD50, Oral, Rat, 180.0 MG/KG; "Pesticide Index,", Frear, E.H., ed., College Science Pub., State College, PA, Vol/p/yr: 5,30, 1976

Acute toxicity, LC50, Inhalation, Rat, > 5.000 GM/M3, 6 H; Pesticide Manual., The British Crop Protection Council, 20 Bridport Rd., Thornton Heath CR4 7QG UK, Vol/p/yr: 9,103, 1991

Acute toxicity, LD50, Skin, Rat, 1600. MG/KG; "Agrochemicals Handbook," with updates, ,, 19, Hartley, D., and H. Kidd, eds., Royal Soc. of Chemistry, Nottingham UK, Vol/p/yr: A542, 1984

Acute toxicity, LD50, Oral, Mouse, 270.0 MG/KG. Result: Behavioral: Change in motor activity (specific assay). ; Pesticide Manual., The British Crop Protection Council, 20 Bridport Rd., Thornton Heath CR4 7QG UK, Vol/p/yr: 9,103, 1991

Acute toxicity, LD50, Skin, Mouse, 4750. MG/KG; Iyakuhin Kenkyu. Study of Medical Supplies., Nippon Koteisho Kyokai, 12-15, 2-chome, Shibuya, Shibuya-ku, Tokyo 150 Japan, Vol/p/yr: 8,680, 1977

Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H; Journal of Environmental Pathology and Toxicology., For publisher information, see JEPOEC, Park Forest South, IL, Vol/p/yr: 4(4),47, 1980

Standard Draize Test, Skin, Species: Rabbit, 80.00 MG. Result: Lungs, Thorax, or Respiration:Acute pulmonary edema. Lungs, Thorax, or Respiration:Dyspnea. Nutritional and Gross Metabolic:Weight loss or decreased weight gain. ; Journal of Environmental Pathology and Toxicology., For publisher information, see JEPOEC, Park Forest South, IL, Vol/p/yr: 4(4),47, 1980
Standard Draize Test, Eyes, Species: Rabbit, 5.000 MG; Journal of the Society of Cosmetic Chemists., Soc. of Cosmetic Chemists, 1995 Broadway, Suite 1701, New York, NY 10023, Vol/p/yr: 29,3, 1978

Irritation or Corrosion:

Skin corrosion/irritation.
Prolonged contact may cause moderate skin irritation with local redness.
Repeated contact may cause flaking and softening of skin.

Serious eye damage/eye irritation:
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Effects may be delayed.
Mist may cause eye irritation.

Sensitization:

For the active ingredient(s):
Skin contact may cause an allergic skin reaction in a small proportion of individuals.

Carcinogenicity/Other Information:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Carcinogenicity:

NTP? No IARC Monographs? No OSHA Regulated? No

12. ECOLOGICAL INFORMATION

General Ecological Information:

Do not discharge effluent into lakes, streams, estuaries, oceans or any other waters in accordance withe the requirement of NDPES permit. This product is extremely toxic to fish and other aquatic organisms.
CAS# 52-51-7: 2-Bromo-2-nitropropane-1,3-diol: LC50, Bluegill (Lepomis macrochirus), 36.00 PPM, 96 H, Mortality; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000
LC50, Rainbow Trout (Oncorhynchus mykiss), 42.00 PPM, 96 H, Mortality. Result: No loss of equilibrium observed. ; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000
LC50, Rainbow Trout (Oncorhynchus mykiss), 20.00 PPM, 96 H, Mortality; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000
Effective concentration to 50% of test organisms., Water Flea (Daphnia magna), 1.600 PPM, 48 H, Intoxication,. Result: No loss of equilibrium observed. ; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000
LC50, Sheepshead Minnow (Cyprinodon variegatus), 59.00 PPM, 96 H, Mortality;

Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Persistence and Degradability: No data available.

Bioaccumulative Potential: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

Mobility in Soil: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product:
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging:
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (2-Bromo-2-Nitropropane-1,3-Diol)
DOT Hazard Class: 8 CORROSIVE
UN/NA Number: UN3265 **Packing Group:** III

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (2-Bromo-2-Nitropropane-1,3-Diol)
UN Number: 3265 **Packing Group:** III
Hazard Class: 8 - CORROSIVE
IMDG MFAG Number:
IMDG EMS Page: **Marine Pollutant:** Yes

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (2-Bromo-2-Nitropropane-1,3-Diol)

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
52-51-7	2-Bromo-2-nitropropane-1,3-diol	No	No	No
57-55-6	Propylene glycol	No	No	No
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
52-51-7	2-Bromo-2-nitropropane-1,3-diol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Active - 216400: Am, Inert: F/NF; FDA/DEA CSA: No; CA PROP.65: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NJ EHS: No; PA HSL: No
57-55-6	Propylene glycol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Active - 068603: Am/CC, Inert: F/NF/Fr; FDA/DEA CSA: No; CA PROP.65: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NJ EHS: No; PA HSL: Yes - 1
7732-18-5	Water	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Inert: F/NF/Fr; FDA/DEA CSA: No; CA PROP.65: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NJ EHS: No; PA HSL: No

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
52-51-7	2-Bromo-2-nitropropane-1,3-diol	Canadian DSL: Yes; Canadian NDSL: No
57-55-6	Propylene glycol	Canadian DSL: Yes; Canadian NDSL: No
7732-18-5	Water	Canadian DSL: Yes; Canadian NDSL: No

16. OTHER INFORMATION

Revision Date: 09/10/2018

Additional Information About This Product:

Company Policy or Disclaimer: Notice to Reader: The information herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. ISOMERIC INDUSTRIES INC. assumes no responsibility for personal or property damage to vendors, users, or third parties caused by the material. Such vendors or users assume all risks associated with the use of the material.