SAFETY DATA SHEET

Printed: 10/11/2021
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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: BIONIX DB20

Company Name: Isomeric Industries Inc.
1600 First Avenue, BLDG 1-A
Big Spring, TX 79720

Phone Number: (833)476-6374

Web site address: www.isomericindustries.com

Email address: info@isomericindustries.com

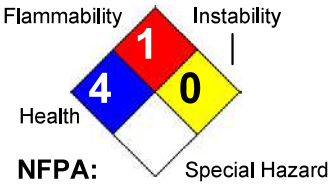
Emergency Contact: INFOTRAC United States & Canada — ID: 104065 (800)535-5053
Information: ISOMERIC Main — (833)476-6374 101

Hazard Rating System:

HMIS:

HEALTH	4
FLAMMABILITY	1
PHYSICAL	0
PPE	X

NFPA:



2. HAZARDS IDENTIFICATION

Acute Toxicity: Oral, Category 4
Acute Toxicity: Inhalation, Category 4
Serious Eye Damage/Eye Irritation, Category 1
Skin Sensitization, Category 1
Specific Target Organ Toxicity (single exposure), Category 1
Corrosive To Metals, Category 1
Aquatic Toxicity (Chronic), Category 2

GHS Signal Word: **Danger**

GHS Hazard Phrases:
May be corrosive to metals.
Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye damage.
Harmful if inhaled.
Causes damage to organs
Toxic to aquatic life with long lasting effects.

GHS Precautionary Phrases:
Keep only in original container.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

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

breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed: Call a POISON CENTER or doctor/physician.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment see supplemental first aid instructions on this label.
Rinse mouth.
If skin irritation or rash occurs, seek medical advice/attention.
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.
Collect spillage.

GHS Storage and Disposal Phrases: Store locked up.
Dispose of contents/container in accordance to local, national, and international regulations.

Potential Health Effects (Acute and Chronic): Hazards not otherwise classified (HNOC) or not covered by GHS. Hazards not otherwise classified (HNOC) or not covered by GHS -none.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	
10222-01-2	2,2-Dibromo-3-nitrilopropionamide	19.0 -21.0 %	
25322-68-3	PEG 200	50.0 %	
7732-18-5	Water	29.0 -31.0 %	

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

In Case of Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

In Case of Skin Contact: Wash exposed area with soap and water thoroughly. Skin contact may cause an allergic reaction. Remove contaminated clothing and wash before reuse. Seek medical advice/attention immediately.

In Case of Eye Contact: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

In Case of Ingestion: Wash out mouth with water. Do not induce vomitting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Signs and Symptoms Of Exposure: May cause allergic skin reaction. Burning sensation, itching, rashes, hives, coughing and/or wheezing, difficulty in breathing.

Note to Physician: May cause sensitization in susceptible persons. Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Pt: > 200.00 F (93.3 C) Method Used: ASTM D Closed Cup

Explosive Limits: LEL: N.A. UEL: N.A.

Autoignition Pt: NA

Suitable Extinguishing Media: Dry chemical, CO2 or water spray.

Fire Fighting Instructions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to cool unopened containers.

Flammable Properties and Hazards: No data available.

Hazardous Combustion Products:

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures: Use proper personal protective equipment as indicated in Section 8.

Environmental Precautions: Avoid release to the environment.

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spilled material if possible. Neutralize with sodium bisulphite or sodium metabisulfite, a minumum of 17.2 grams sodium bisulfite or 15.7 grams sodium metabisulfite for every 100 grams of product should be used to fully neutralize the product. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Avoid breathing dust, mist, or vapor. Avoid contact with skin and eyes. Keep container tightly closed.

Precautions To Be Taken in Storing: Store in a cool, dry place. Store away from incompatible material. Store away from sparks, flames.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
10222-01-2	2,2-Dibromo-3-nitrilopropionamide			
25322-68-3	PEG 200			
7732-18-5	Water			

Personal Protective Equipment Symbols:

Respiratory Equipment (Specify Type):	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.
Eye Protection:	When fullface respirator or PAPR are not in use, Splash goggles and/or face shield are recommended.
Protective Gloves:	Wear appropriate gloves to prevent skin exposure. The suitability for a specific workplace should be discussed with the producers of the protective gloves to ensure proper type is chosen for the process. Recommended: Neoprene gloves (0.75 mm) Butyl rubber gloves (0.7 mm) Nitrile rubber (0.38 mm)
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure. Choose protection according to the amount and concentration of the dangerous substance at the workplace.
Engineering Controls (Ventilation etc.):	Use local and/or general exhaust ventilation to maintain airborne concentrations below irritating levels or airborne exposure limits, whichever is lower. Local exhaust is generally preferred because it can control the emission of the contaminant at its source, preventing dispersion of it into the general work area.
Work/Hygienic/Maintenance Practices:	An eye wash station should be accessible in the immediate area of use. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.
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. No special environmental precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Clear, yellow to amber. chlorine-like.
pH:	2.0 - 5.0
Freezing Point/Pour Point:	< -30.00 F (-34.4 C)
Boiling Point:	> 158.00 F (70.0 C)
Flash Pt:	> 200.00 F (93.3 C) Method Used: ASTM D Closed Cup
Evaporation Rate:	< 1
Flammability (solid, gas):	
Explosive Limits:	LEL: N.A. UEL: N.A.
Vapor Pressure (vs. Air or mm Hg):	4X10(-5) MM_HG at 25.0 C (77.0 F)
Vapor Density (vs. Air = 1):	< 1

Specific Gravity (Water = 1): - 1.22+/-0.05 at 72.0 F (22.2 C)
Solubility in Water: soluble
Solubility Notes: Soluble in water.
Octanol/Water Partition Coefficient:
Percent Volatile: NA
Autoignition Pt: NA
Decomposition Temperature: > 158.00 F (70.0 C)
Viscosity:

10. STABILITY AND REACTIVITY

Reactivity: acids, Bases. Water.
Stability: Unstable [ ] Stable [X]
Conditions To Avoid - Instability: Light, Heat, heating to decomposition. Incompatible materials.
Incompatibility - Materials To Avoid: Strong oxidizing agents. Reducing agents, Bases.
Hazardous Decomposition or Byproducts: nitrogen oxides. Hydrogen bromide. Bromine fumes.
Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:

Likely routes of exposure:
Inhalation - Harmful by inhalation.
Eye contact - Causes serious eye damage. May cause burns.
Skin contact - May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion - Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Acute Toxicity:
Oral (LD50) = 1387 mg/kg
Dermal (LD50) = >4000 mg/kg
Inhalation (LD50) = 1.05 mg/L
CAS# 10222-01-2: 2,2-Dibromo-3-nitrilopropionamide: Acute toxicity, LD50, Intravenous, Mouse, 10.00 MG/KG; U.S. Army Armament Research & Development Command, Chemical Systems Laboratory, NIOSH Exchange Chemicals., Aberdeen Proving Ground,, Aberdeen Proving Ground, MD 21010, Vol/p/yr: NX#, 7898
Acute toxicity, LD50, Oral, Species: unspecified., 118.0 MG/KG; Pharmacologist., American Soc. for Pharmacology and Experimental Therapeutics, 9650 Rockville Pike, Rockville, MD 20014, Vol/p/yr: 15,226, 1973
CAS# 25322-68-3: PEG 200: Acute toxicity, LD50, Oral, Rat, 28.00 GM/KG. Result: Behavioral: Somnolence (general depressed activity). Behavioral: Muscle weakness. Lungs, Thorax, or Respiration:Dyspnea. ; Dow Chemical Company Reports., Dow Chemical USA, Health and Environment Research, Toxicology Research Lab, Midland,

MI 48640, Vol/p/yr: MSD-1112,
Acute toxicity, LD50, Skin, Species: Rabbit, > 20.00 GM/KG. Result: Behavioral: Somnolence (general depressed activity). Behavioral: Muscle weakness. Lungs, Thorax, or Respiration:Dyspnea. ; Dow Chemical Company Reports., Dow Chemical USA, Health and Environment Research, Toxicology Research Lab, Midland, MI 48640, Vol/p/yr: MSD-1112,
Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H. Result: Behavioral: Headache. Lungs, Thorax, or Respiration:Other changes. ; "Sbornik Vysledku Toxixologickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,255, 1972
Standard Draize Test, Eyes, Species: Rabbit, 500.0 MG, 24 H. Result: Lungs, Thorax, or Respiration:Changes in Lung Weight. Nutritional and Gross Metabolic:Weight loss or decreased weight gain. Biochemical: Metabolism (Intermediary): Other proteins. ; "Sbornik Vysledku Toxixologickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,255, 1972

Irritation or Corrosion:
Skin corrosion/irritation - May cause irritation.
Serious eye damage/irritation - Causes serious eye damage.

Symptoms related to Toxicological Characteristics:
Redness. Burning. May cause blindness. Itching. Rashes. Hives. Coughing and/or wheezing.

Sensitization:
May cause sensitization by skin contact.

Chronic Toxicological Effects:
Causes damage to organs through prolonged or repeated exposure (respiratory tract)

Carcinogenicity/Other Information:
Germ cell mutagenicity - Not mutagenic in several in vitro assays. (CAS# 10222-01-2)
Carcinogenicity - Did not cause cancer in laboratory animals. (CAS# 10222-01-2)
Teratogenicity - Not teratogenic. The NOAEL (for fetal toxicity in rabbits) = 10 mg/kg/day (CAS# 10222-01-2)
Reproductive toxicity - The product did not demonstrate reproductive toxicity. In a 2-generation study in rats, the NOEL for reproduction parameters was >= 30 mg/kg/day. (CAS# 10222-01-2)
CAS# 10222-01-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Carcinogenicity:
NTP? N.A. IARC Monographs? N.A. OSHA Regulated? N.A.

12. ECOLOGICAL INFORMATION

General Ecological Information:
Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Ecotoxicity data:
The data on DBNPA (CAS# 10222-01-2) as a individual component is:
3.4 ppm for the Pimephales Promelas/96 hour/LC50
0.86 ppm for the Daphnia Magna/48 hour/EC50
0.72 ppm for the Mysidopsis Bahia/48 hour/LC50
0.72 ppm for Scenedesmus Subspicatus/72 hour/EbC50
0.06 ppm for Daphnia Magna/21 day/NOEC

The calculated values for the final product of BIONIX DB20 are:
17.0 ppm (mg/L) for the Pimephales Promelas/96 hour/LC50
4.3 ppm (mg/L) for the Daphnia Magna/48 hour/EC50

3.6 ppm (mg/L) for the Mysidopsis Bahia/48 hour/LC50
3.6 ppm (mg/L) for Scenedesmus Subspicatus/72 hour/EbC50
CAS# 10222-01-2: 2,2-Dibromo-3-nitrilopropionamide: LC50, Bluegill (Lepomis macrochirus), 2.300 PPM, 96 H, Mortality. Result: no hazard identified. ; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000
CAS# 25322-68-3: PEG 200: LC50, Rainbow Trout (Oncorhynchus mykiss), 20000000. UG/L, 96 H, Mortality, Water temperature: 14.00 C (57.2 F) C, pH: 7.20. Result: No observed effect. ; Relationship between Toxicity to Fish and to Mammals: A Comparative Study Under Defined Laboratory Conditions, Bathe, R., L. Ullman, K. Sachsse, and R. Hess, 1975

Results of PBT and vPvB assessment: No data available.

Persistence and Degradability: Considered to be rapidly degradable. Hydrolysis rate inceases with an increase in either pH or temperature (half-lives at pH 7, 65 hours at 25C).

Bioaccumulative Potential: Not expected to bioaccumulate.

Mobility in Soil: Expected to be mobile in soil.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: RACA: It is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).

Disposal: Biocide or Pesticide waste are acutely hazardous. Improper disposal or excess product or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Biocide/Pesticide or Environmental Control Agency, or the Hazardous Waste representative at your nearest EPA Regulation Office for guidance.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (2,2-Dibromo-3-nitrilopropion amide)
DOT Hazard Class: 8 CORROSIVE
UN/NA Number: UN3265 **Packing Group:** III

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (2,2-Dibromo-3-nitrilopropion amide)
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. (2,2-Dibromo-3-nitrilopropion amide)

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)
10222-01-2	2,2-Dibromo-3-nitrilopropionamide	No	No	No
25322-68-3	PEG 200	No	No	No
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
10222-01-2	2,2-Dibromo-3-nitrilopropionamide	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Active - 101801: Am; FDA/DEA CSA: No; CA PROP.65: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NJ EHS: No; PA HSL: No
25322-68-3	PEG 200	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Active - 127101: 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: No
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
10222-01-2	2,2-Dibromo-3-nitrilopropionamide	Canadian DSL: No; Canadian NDSL: Yes
25322-68-3	PEG 200	Canadian DSL: Yes; Canadian NDSL: No
7732-18-5	Water	Canadian DSL: Yes; Canadian NDSL: No

16. OTHER INFORMATION

Revision Date: 10/11/2021

Additional Information About This Product: No data available.

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