

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Substance  
 Substance name : Smart Release Bio-Clear  
 Product code : 000472

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Biocide. For industrial use. This product should be used in a manner consistent with the listed use.

#### 1.3. Details of the supplier of the safety data sheet

Dober Chemical Corp  
 11230 Katherine's Crossing  
 Suite 100  
 Woodridge, IL 60517 - US  
 T 630-410-7300 - F 630-410-7444  
[regulatory@dobergroup.com](mailto:regulatory@dobergroup.com) - [www.dobergroup.com](http://www.dobergroup.com)

#### 1.4. Emergency telephone number

Emergency number : 1-800-255-3924 / 1-813-248-0585  
 ChemTel

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Acute Tox. 3 (Oral) H301  
 Acute Tox. 2 (Inhalation) H330  
 Skin Corr. 1A H314  
 Eye Dam. 1 H318  
 Skin Sens. 1 H317

Full text of H-statements: see section 16

#### 2.2. Label elements

##### GHS-US labelling

##### Hazard pictograms (GHS-US)



##### Signal word (GHS-US)

: Danger

##### Hazard statements (GHS-US)

: H301 - Toxic if swallowed  
 H314 - Causes severe skin burns and eye damage  
 H317 - May cause an allergic skin reaction  
 H318 - Causes serious eye damage  
 H330 - Fatal if inhaled

##### Precautionary statements (GHS-US)

: P260 - Do not breathe dust/fume/gas/mist/vapours/spray  
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray  
 P264 - Wash hands, forearms and face thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P271 - Use only outdoors or in a well-ventilated area  
 P272 - Contaminated work clothing must not be allowed out of the workplace  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P284 - [In case of inadequate ventilation] wear respiratory protection  
 P301+P310 - If swallowed: Immediately call a poison center/doctor  
 P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
 P302+P352 - If on skin: Wash with plenty of soap and water  
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse

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skin with water/shower  
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  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P363 - Wash contaminated clothing before reuse  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up  
P501 - Dispose in a safe manner in accordance with local/national regulations

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS-US)

Not applicable

## SECTION 3. Composition/information on ingredients

### 3.1. Substance

Substance type : Mono-constituent  
Name : Smart Release Bio-Clear

Name	Product identifier	%	GHS-US classification
2,2-Dibromo-3-nitropropionamide	(CAS No) 10222-01-2	> 97	Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Propanediamide, 2,2-dibromo-	(CAS No) 73003-80-2	<= 0.2	Not classified

Full text of H-statements: see section 16

### 3.2. Mixture

Not applicable

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Allow breathing of fresh air. Allow the victim to rest.  
First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.  
First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.  
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Aside from the information found under Description of first aid measures (above) and Indication of any immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Notes to physician:** Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Material may cause severe pulmonary edema. For persons receiving significant exposure to this material, consider chest x-ray and keep under observation for 48 - 72 hr. for delayed onset of pulmonary edema. Humidified oxygen, intermittent positive pressure breathing, assisted respiration/CPAP and steroid therapy should be considered in treatment. Physical exertion may potentiate exposure effects during the first 24 - 72 hours. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.
- Unsuitable extinguishing media : No data available.

#### 5.2. Special hazards arising from the substance or mixture

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

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. If not contained, fire water run-off may cause environmental damage.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel. Refer to section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Only trained and properly protected personnel must be involved in clean-up operations. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Spills or discharge to natural waterways is likely to kill aquatic organisms.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Keep out of reach of children. Do not get in eyes, on skin, on clothing. Do not breathe dust. Avoid prolonged or repeated contact with skin. Do not swallow. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep container closed when not in use.
- Incompatible products : Do not store in Aluminum, Brass, Copper, Copper alloys, Mild steel, Stainless Steel.
- Incompatible materials : Sources of ignition. Direct sunlight.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Smart Release Bio-Clear	
ACGIH	Not applicable
OSHA	Not applicable
2,2-Dibromo-3-nitrilopropionamide (10222-01-2)	
ACGIH	Not applicable

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<b>2,2-Dibromo-3-nitropropionamide (10222-01-2)</b>	
OSHA	Not applicable
<b>Propanediamide, 2,2-dibromo- (73003-80-2)</b>	
ACGIH	Not applicable
OSHA	Not applicable

### 8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
- Eye protection : Chemical goggles or safety glasses.
- Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.
- Other information : 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
- Colour : White to yellow
- Odour : Pungent
- Odour threshold : No data available
- pH : 6.9
- Relative evaporation rate (butylacetate=1) : No data available
- Melting point : 124.5 °C
- Freezing point : Not applicable to solids
- Boiling point : Decomposes before boiling
- Flash point : Not applicable to solids
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : Non-flammable (solid)
- Vapour pressure : No data available
- Relative vapour density at 20 °C : No data available
- Relative density : 1.356
- Solubility : Water: 1.53 %
- Log Pow : 0.79 *Measured*
- Log Kow : No data available
- Viscosity, kinematic : Not applicable to solids
- Viscosity, dynamic : No data available
- Explosive properties : No data available
- Oxidising properties : No
- Explosive limits : No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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

#### 10.2. Chemical stability

Stable under normal conditions. Unstable at elevated temperatures.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Avoid temperatures above 70°C (158°F) Product decomposes above melting temperature. Generation of gas during decomposition can cause pressure in closed systems.

#### 10.5. Incompatible materials

Strong acids. Strong bases. Amines. Avoid contact with metals such as Aluminum.

#### 10.6. Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Dibromoacetonitrile. Hydrogen bromide. Nitrogen oxides. Decomposition products can include trace amounts of: Cyanogen bromide.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

: **Oral:** Moderate toxicity if swallowed. Swallowing may result in irritation or burns of the mouth, throat, and gastrointestinal tract. May cause dizziness and drowsiness. **Dermal:** Prolonged skin contact is unlikely to result in absorption of harmful amounts. **Inhalation:** Vapors are unlikely produced due to physical properties. Prolonged excessive exposure to dust may cause serious adverse effects, even death. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. May cause severe pulmonary edema (fluid in the lungs). Prolonged and excessive exposure to fine dusts may cause lung injury. Study was conducted on dust aerosol by grinding the material to produce a fine respirable powder.

Smart Release Bio-Clear	
LD50 oral rat	167 mg/kg female
LD50 dermal rabbit	> 2000 mg/kg No deaths occurred at this concentration.
LC50 inhalation rat (mg/l)	0.24 mg/l/4h female.
ATE US (oral)	167.000 mg/kg bodyweight
ATE US (gases)	100.000 ppmv/4h
ATE US (vapours)	0.240 mg/l/4h
ATE US (dust,mist)	0.240 mg/l/4h
2,2-Dibromo-3-nitropropionamide (10222-01-2)	
ATE US (oral)	100.000 mg/kg bodyweight
ATE US (dust,mist)	0.320 mg/l/4h

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 6.9 Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.
Serious eye damage/irritation	: Causes serious eye damage. pH: 6.9 May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Excessive exposure may increase the blood and tissue levels of bromine. Observations in animals include kidney effects following repeated ingestion of active ingredient, but no evidence of systemic toxicity following repeated dermal exposure at maximum attainable doses Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs.
Aspiration hazard	: Based on physical properties, not likely to be an aspiration hazard.

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Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Material is highly toxic to aquatic organisms on an acute basis.

Smart Release Bio-Clear	
LC50 fish 1	1 mg/l Oncorhynchus mykiss (rainbow trout), 96 hour
EC50 Daphnia 1	0.6 mg/l Daphnia Magna (water flea), 48 hour
EC50 other aquatic organisms 1	3.1 mg/l activated sludge
ErC50 (algae)	0.5 mg/l Pseudokirchneriella subcapitata (green algae), 72 hour, growth rate inhibition
NOEC (chronic)	0.25 mg/l Daphnia magna (water flea), flow-through test, 21 d
2,2-Dibromo-3-nitrilopropionamide (10222-01-2)	
EC50 Daphnia 1	0.72 mg/l

#### 12.2. Persistence and degradability

Smart Release Bio-Clear	
Chemical oxygen demand (COD)	0.26 mg/mg
ThOD	0.59 mg/mg

#### 12.3. Bioaccumulative potential

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.79 Measured

Bioconcentration factor (BCF): 13 Fish Measured

#### 12.4. Mobility in soil

Smart Release Bio-Clear	
Mobility in soil	15 Estimated Potential for mobility in soil is very high.

#### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

UN-No.(DOT) : UN2923

UN-No. (IMDG) : 2923

UN-No. (IATA) : 2923

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Corrosive Solids, Toxic, N.O.S.  
(2,2-Dibromo-3-nitrilopropionamide)

Proper Shipping Name (IMDG) : CORROSIVE SOLID, TOXIC, N.O.S.  
(2,2-Dibromo-3-nitrilopropionamide)

Proper Shipping Name (IATA) : Corrosive solid, toxic, n.o.s.

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(2,2-Dibromo-3-nitrilopropionamide)

### 14.3. Transport hazard class(es)

Transport hazard class(es) (DOT) : 8 - Corrosive, 6.1 - Poison inhalation hazard

Hazard labels (DOT) : 8, 6.1



Transport hazard class(es) (IMDG) : 8 (6.1)

Danger labels (IMDG) : 8, 6.1



Transport hazard class(es) (IATA) : 8 (6.1)

Hazard labels (IATA) : 8, 6.1



### 14.4. Packing group

Packing group (DOT) : III

Packing group (IMDG) : III

Packing group (IATA) : III

### 14.5. Environmental hazards

Marine pollutant(DOT) : No

Marine pollutant(IMDG) : Yes

Marine pollutant(IATA) : Yes

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

### Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number: 464-389-10076

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

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### DANGER

Corrosive

Causes irreversible eye damage

May be fatal if inhaled or swallowed

Causes skin irritation

Harmful if absorbed through the skin

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

This pesticide is toxic to fish and aquatic organisms.

### 15.2. International regulations

#### CANADA

**2,2-Dibromo-3-nitrilopropionamide (10222-01-2)**

Listed on the Canadian NDSL (Non-Domestic Substances List)

**Propanediamide, 2,2-dibromo- (73003-80-2)**

Listed on the Canadian NDSL (Non-Domestic Substances List)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16. Other information

Other information : None.

### Full text of H-statements:

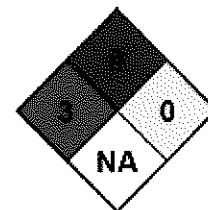
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Sens. 1	Sensitisation — Skin, Category 1
Skin Sens. 1B	Sensitisation — Skin, category 1B
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H330	Fatal if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

NFPA specific hazard : NA - Not Applicable



### HMIS III Rating

Health : 3 - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0

Physical : 0

Personal Protection : H

Dober SDS US



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*To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*