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## SECTION 1. IDENTIFICATION

### Product identifier

Trade name : Biosperse™ CN4200  
MICROBIOCIDE  
™ Trademark, Solenis or its subsidiaries or affiliates,  
registered in various countries

### Recommended use of the chemical and restrictions on use

Use of the Substance/Mixture : Biocide

<b>Details of the supplier of the safety data sheet</b> Solenis LLC 500 Hercules Road Wilmington, Delaware 19808 United States of America (USA)  RegulatoryRequestsNA@solenis.com Solenis LLC	<b>Emergency telephone number</b> 1-844-SOLENIS (844-765-3647)  <b>Product Information</b> Contact your local Solenis representative
--	--

## SECTION 2. HAZARDS IDENTIFICATION

### GHS classification in accordance with 29 CFR 1910.1200


Acute toxicity (Oral) : Category 4  
Acute toxicity (Inhalation) : Category 4  
Skin irritation : Category 2  
Serious eye damage : Category 1  
Skin sensitisation : Category 1  
Carcinogenicity : Category 1B

### GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled  
H315 Causes skin irritation.

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H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H350 May cause cancer.

Precautionary statements :

**Prevention:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin 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 should not be allowed out of the workplace.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
P305 + P351 + P338 + P310 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/doctor.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Classification	Concentration (%)
POLYETHYLENE GLYCOL	25322-68-3	Not a hazardous substance or mixture.	>= 50 - < 60

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2,2 DIBROMO-3-NITRILOPROPIONAMIDE	10222-01-2	Acute Tox. 3; H301 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 20 - < 30
DIBROMOACETONITRILE	3252-43-5	Flam. Liq. 3; H226 Acute Tox. 3; H301 Skin Corr. 1; H314 Eye Irrit. 2A; H319 Carc. 1B; H350	>= 3 - < 5

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Move to fresh air.  
IF INHALED: Call a POISON CENTER/doctor if you feel unwell.  
Keep patient warm and at rest.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
Wash contaminated clothing before re-use.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.
- If swallowed : Obtain medical attention.  
Do NOT induce vomiting.  
Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)  
Headache

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Harmful if swallowed or if inhaled  
 Causes skin irritation.  
 May cause an allergic skin reaction.  
 Causes serious eye damage.  
 May cause cancer.

Notes to physician : Probable mucosal damage may contraindicate the use of gastric lavage.  
 Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

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## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
 Water spray  
 Foam  
 Carbon dioxide (CO2)  
 Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon monoxide  
 Carbon dioxide (CO2)  
 Hydrocarbons  
 Alcohols  
 ethers  
 Ketones  
 Bromine  
 Nitrogen oxides (NOx)  
 hydrogen bromide  
 Sodium oxides  
 Cyanides
- Specific extinguishing methods : Product is compatible with standard fire-fighting agents.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and : Use personal protective equipment.  
 Ensure adequate ventilation.

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- emergency procedures : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

---

## SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust. Do not smoke. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Container hazardous when empty. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

---

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
POLYETHYLENE GLYCOL	25322-68-3	TWA (aerosol)	10 mg/m <sup>3</sup>	US WEEL
2,2 DIBROMO-3-	10222-01-2	TWA	5 mg/m <sup>3</sup>	OSHA Z-1

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NITRILOPROPIONAMIDE			(Cyanide)	
		C	5 mg/m3 (Cyanide)	ACGIH
		TWA	5 mg/m3 (Cyanide)	OSHA P0
		C	4.7 ppm 5 mg/m3 (Cyanide)	NIOSH REL
DIBROMOACETONITRILE	3252-43-5	TWA	5 mg/m3 (Cyanide)	OSHA Z-1
		C	5 mg/m3 (Cyanide)	ACGIH
		TWA	5 mg/m3 (Cyanide)	OSHA P0
		C	4.7 ppm 5 mg/m3 (Cyanide)	NIOSH REL

**Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.


A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.  
 Maintain eye wash station in immediate work area.

Skin and body protection : Wear as appropriate:  
 Impervious clothing  
 Safety shoes  
 Choose body protection according to the amount and

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concentration of the dangerous substance at the work place.  
Discard gloves that show tears, pinholes, or signs of wear.  
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.  
When using do not eat or drink.  
When using do not smoke.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : No data available

Odour Threshold : No data available

pH : 3.4

Melting point/freezing point : No data available

Boiling point/boiling range : > 70 °C

Flash point : > 100 °C  
Method: Closed Cup

Evaporation rate : < 1  
Ethyl Ether

Flammability (solid, gas) : No data available  
No data available

Self-ignition : No data available

Upper explosion limit : No data available  
No data available


Lower explosion limit : No data available

Vapour pressure : No data available

Relative vapour density : < 1  
AIR=1

Relative density : 1.25 (73.40 °F)

Density : 1.25 g/cm<sup>3</sup> (73.40 °F)

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Solubility(ies)  
 Water solubility : soluble

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Decomposition temperature : No data available

Viscosity  
 Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : No data available

No data available

---

#### SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.


Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

Conditions to avoid : temperatures above 150 degrees F (66 °C)  
 Heat, flames and sparks.  
 Exposure to moisture

Incompatible materials : Acids  
 anionic materials  
 Bases  
 oxidizable substances  
 reducing agents  
 Strong oxidizing agents

Hazardous decomposition products : **Alcohols**  
**Carbon monoxide**  
**Carbon dioxide (CO<sub>2</sub>)**  
**ethers**  
**Hydrocarbons**  
**Ketones**  
**Bromine**  
**Nitrogen oxides (NO<sub>x</sub>)**  
**Cyanides**  
**hydrogen bromide**



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## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

Harmful if swallowed or if inhaled

#### Product:

Acute oral toxicity : Acute toxicity estimate: 796.45 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 1.6 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

#### Components:

##### **POLYETHYLENE GLYCOL:**

Acute oral toxicity : LD 50 (Rat): > 20 g/kg

Acute dermal toxicity : LD 50 (Rabbit): > 20 g/kg

##### **2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

Acute oral toxicity : LD 50 (Rat, male): 235 mg/kg  
LD 50 (Rat, female): 178 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 0.32 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD 50 (Rabbit): > 2 g/kg  
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

##### **DIBROMOACETONITRILE:**

Acute oral toxicity : LD50 (Rat): 245 mg/kg

### Skin corrosion/irritation

Causes skin irritation.

#### Product:

Result: Irritating to skin.

Remarks: May cause skin irritation and/or dermatitis.

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**Components:****POLYETHYLENE GLYCOL:**

Result: Not irritating to skin

**2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

Species: Rabbit

Result: Irritating to skin

**DIBROMOACETONITRILE:**

Result: Corrosive to skin

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Product:**

Result: Risk of serious damage to eyes.

Remarks: May cause irreversible eye damage.

**Components:****POLYETHYLENE GLYCOL:**

Result: Not irritating to eyes

**2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

Species: Rabbit

Result: Corrosive to eyes

**DIBROMOACETONITRILE:**

Result: Irritating to eyes

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.


**Product:**

Result: May cause sensitisation by skin contact.

Remarks: May cause allergic skin reaction.

**Components:****2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

Test Type: Maximisation Test

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Species: Guinea pig

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

- Genotoxicity in vitro : Test Type: Ames test  
Species: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Result: negative
- : Test Type: In vitro mammalian cell gene mutation test  
Species: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Result: negative
- : Test Type: Chromosome aberration test in vitro  
Species: Human lymphocytes  
Metabolic activation: with and without metabolic activation  
Result: positive
- : Test Type: unscheduled DNA synthesis assay  
Species: rat hepatocytes  
Result: negative

**DIBROMOACETONITRILE:**

- Genotoxicity in vitro : Remarks: In vitro tests showed mutagenic effects which were not observed with in vivo test.
- Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Cell type: peripheral blood cells  
Result: negative

**Carcinogenicity**

May cause cancer.

**Components:**

**DIBROMOACETONITRILE:**

- Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments, Presumed to have carcinogenic potential for humans

**IARC**

Group 2B: Possibly carcinogenic to humans

DIBROMOACETONITRILE 3252-43-5

**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.

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**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.

**Reproductive toxicity**

Not classified based on available information.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Further information****Product:**

Remarks: No data available

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : LC 50 (Oncorhynchus mykiss (rainbow trout)): 2.3 mg/l  
Exposure time: 96 h  
  
LC 50 (Cyprinodon variegatus (sheepshead minnow)): 3.4 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 0.86 mg/l  
Exposure time: 48 h

**Ecotoxicology Assessment**

Acute aquatic toxicity : Acute aquatic toxicity Category 1; Very toxic to aquatic life.

Chronic aquatic toxicity : Chronic aquatic toxicity Category 2; Toxic to aquatic life with long lasting effects.

**Components:****POLYETHYLENE GLYCOL:**

Toxicity to fish : LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss)): > 20,000 mg/l  
Exposure time: 96 h  
Test Type: static test

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**2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

- Toxicity to fish : LC 50 (Oncorhynchus mykiss (rainbow trout)): 1.0 mg/l  
 Exposure time: 96 h  
 LC 50 (Bluegill (Lepomis macrochirus)): 2.3 mg/l  
 Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 0.86 mg/l  
 Exposure time: 48 h
- Toxicity to algae : EC 50 (Pseudokirchneriella subcapitata (green algae)): 0.30 mg/l  
 Exposure time: 72 h
- Toxicity to fish (Chronic toxicity) : (Oncorhynchus mykiss (rainbow trout)): 0.47 - 0.98 mg/l
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Daphnia magna)): 0.02 mg/l

**DIBROMOACETONITRILE:**

- Toxicity to fish : LC 50 (Fathead minnow (Pimephales promelas)): 0.49 - 0.62 mg/l  
 Exposure time: 96 h  
 Method: Static  
 Remarks: Mortality

**Persistence and degradability**

**Product:**

- Biodegradability : Remarks: Readily biodegradable

**Components:**

**POLYETHYLENE GLYCOL:**

- Biodegradability : Result: Readily biodegradable.

**2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

- Biodegradability : Remarks: Readily biodegradable

**Bioaccumulative potential**

**Components:**

**2,2 DIBROMO-3-NITRILOPROPIONAMIDE:**

- Partition coefficient: n-octanol/water : Pow: 6.31  
 pH: 7

**DIBROMOACETONITRILE:**

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Partition coefficient: n-octanol/water : log Pow: Estimated 0.47

**Mobility in soil**

No data available

**Other adverse effects**
**Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**SECTION 13. DISPOSAL CONSIDERATIONS**
**Disposal methods**

 Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
 Do not contaminate ponds, waterways or ditches with chemical or used container.  
 Send to a licensed waste management company.  
  
 Dispose of in accordance with all applicable local, state and federal regulations.

 Contaminated packaging : Empty remaining contents.  
 Dispose of as unused product.  
 Empty containers should be taken to an approved waste handling site for recycling or disposal.  
 Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION**
**International transport regulations**
**REGULATION**

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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**U.S. DOT - ROAD**

UN	3265	Corrosive liquid, acidic, organic, n.o.s. (2,2-DIBROMO-2-CYANOACETAMIDE)	8		III
----	------	--	---	--	-----

**U.S. DOT - RAIL**

UN	3265	Corrosive liquid, acidic, organic, n.o.s. (2,2-DIBROMO-2-CYANOACETAMIDE)	8		III
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**U.S. DOT - INLAND WATERWAYS**

UN	3265	Corrosive liquid, acidic, organic, n.o.s. (2,2-DIBROMO-2- CYANOACETAMIDE)	8	III
----	------	---	---	-----

**TRANSPORT CANADA - ROAD**

UN	3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2,2- DIBROMO-2- CYANOACETAMIDE)	8	III
----	------	---	---	-----

**TRANSPORT CANADA - RAIL**

UN	3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2,2- DIBROMO-2- CYANOACETAMIDE)	8	III
----	------	---	---	-----

**INTERNATIONAL MARITIME DANGEROUS GOODS**

UN	3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2,2- DIBROMO-2- CYANOACETAMIDE)	8	III
----	------	---	---	-----

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

UN	3265	Corrosive liquid, acidic, organic, n.o.s. (2,2-DIBROMO-2- CYANOACETAMIDE)	8	III
----	------	---	---	-----

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**


UN	3265	Corrosive liquid, acidic, organic, n.o.s. (2,2-DIBROMO-2- CYANOACETAMIDE)	8	III
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**MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES**

UN	3265	LIQUIDO CORROSIVO, ACIDO, ORGANICO, N.E.P. (2,2-DIBROMO-2- CYANOACETAMIDE)	8	III
----	------	---	---	-----

\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

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## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Respiratory or skin sensitization  
Carcinogenicity

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

2,2 DIBROMO-3-	10222-01-2	20 %
NITRILOPROPIONAMIDE		

#### California Prop. 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

#### The components of this product are reported in the following inventories:

DSL : This product contains one or more components that are not on the Canadian DSL and have annual quantity limits.

AICS : Exempt

ENCS : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory


TCSI : On the inventory, or in compliance with the inventory

TSCA : On TSCA Inventory

#### Biocides

74655-21



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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:

Danger, Corrosive., Causes irreversible eye damage., May be fatal if inhaled., May be fatal if swallowed., Causes skin irritation., Do not get in eyes, on skin or on clothing., Do not breathe dust., Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**SECTION 16. OTHER INFORMATION**

**Further information**

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**Full text of H-Statements**


- H226 : Flammable liquid and vapour.
- H301 : Toxic if swallowed.
- H314 : Causes severe skin burns and eye damage.
- H315 : Causes skin irritation.
- H317 : May cause an allergic skin reaction.
- H318 : Causes serious eye damage.
- H319 : Causes serious eye irritation.
- H330 : Fatal if inhaled.
- H350 : May cause cancer.

**Full text of other abbreviations**

- Acute Tox. : Acute toxicity
- Carc. : Carcinogenicity
- Eye Dam. : Serious eye damage
- Eye Irrit. : Eye irritation
- Flam. Liq. : Flammable liquids
- Skin Corr. : Skin corrosion
- Skin Irrit. : Skin irritation
- Skin Sens. : Skin sensitisation

**Further information**

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

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Sources of key data used to compile the Safety Data Sheet

Key literature references and sources of data

SOLENIS Internal data

SOLENIS internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

#### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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