

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## AUTHORITY® EDGE HERBICIDE

|         |                |             |                                 |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 05/24/2024  |
| 1.3     | 05/28/2025     | 50001325    | Date of first issue: 06/05/2019 |

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### SECTION 1. IDENTIFICATION

#### Product identifier

**Product name** AUTHORITY® EDGE HERBICIDE

#### Other means of identification

**Product code** 50001325

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

**Recommended use** Can be used as herbicide only.

**Restrictions on use** Use as recommended by the label.

#### Manufacturer or supplier's details

**Manufacturer** FMC Corporation  
2929 Walnut Street  
Philadelphia PA 19104  
USA  
+1 (215) 299-6000  
SDS-Info@fmc.com

**Supplier Address** FMC Corporation  
2929 Walnut Street  
Philadelphia PA 19104  
USA

#### Emergency telephone

For leak, fire, spill or accident emergencies, call:  
1 800 / 424-9300 (CHEMTREC - U.S.A.)  
1 703 / 741-5970 (CHEMTREC - International)  
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:  
U.S.A. & Canada: +1 800 / 331-3148  
All other countries: +1 651 / 632-6793 (Collect)

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### SECTION 2. HAZARDS IDENTIFICATION

#### **GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

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Eye irritation : Category 2A

Specific target organ toxicity : Category 1 (Nervous system, Kidney, Liver, Cardio-vascular  
- repeated exposure system, Bladder)

Specific target organ toxicity : Category 2 (hematopoietic system)  
- repeated exposure

Specific target organ toxicity : Category 2 (inner ear)  
- repeated exposure (Inhalation)

### Other hazards

Very toxic to aquatic life with long lasting effects.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Components

| Chemical name                            | CAS-No.     | Concentration (% w/w)        |
|------------------------------------------|-------------|------------------------------|
| Sulfentrazone                            | 122836-35-5 | 26.44                        |
| Pyroxasulfone                            | 447399-55-5 | 14.77                        |
| propane-1,2-diol                         | 57-55-6     | ( $\geq 5$ - $\leq 10$ )*    |
| sodium diisopropyl naphthalenesulphonate | 1322-93-6   | ( $\geq 1$ - $\leq 5$ )*     |
| toluene                                  | 108-88-3    | ( $\geq 0.5$ - $\leq 1.5$ )* |

\*Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.

If inhaled : Move to fresh air.  
If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.

In case of skin contact : Take off all contaminated clothing immediately.  
Wash contaminated clothing before re-use.  
Wash off immediately with plenty of water for at least 15 minutes.  
Get medical attention immediately if irritation develops and persists.

In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.

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- If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice.  
Keep respiratory tract clear.  
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 : Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
Harmful if inhaled.  
Causes damage to organs through prolonged or repeated exposure.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing  
Avoid inhalation, ingestion and contact with skin and eyes.  
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, water spray or regular foam.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet  
Do not spread spilled material with high-pressure water streams.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Chlorinated compounds  
Fluorinated compounds  
Sulfur oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides  
Hydrogen cyanide  
Hydrogen chloride  
Fire may produce irritating, corrosive and/or toxic gases.  
Hydrogen fluoride  
Sulphuric acid
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
For safety reasons in case of fire, cans should be stored sepa-

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ately in closed containments.  
Use a water spray to cool fully closed containers.

Special protective equipment : Firefighters should wear protective clothing and self-contained for fire-fighters breathing apparatus.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
If it can be safely done, stop the leak.  
Do not touch or walk through the spilled material.  
Never return spills in original containers for re-use.  
Mark the contaminated area with signs and prevent access to unauthorized personnel.  
Only qualified personnel equipped with suitable protective equipment may intervene.  
For disposal considerations see section 13.

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 : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Keep in suitable, closed containers for disposal.

### SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.  
Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapors/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : No smoking.  
Keep in a well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

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Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

| Components       | CAS-No.  | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis     |
|------------------|----------|-------------------------------|------------------------------------------------|-----------|
| propane-1,2-diol | 57-55-6  | TWA                           | 10 mg/m3                                       | US WEEL   |
| toluene          | 108-88-3 | TWA                           | 20 ppm                                         | ACGIH     |
|                  |          | TWA                           | 100 ppm<br>375 mg/m3                           | NIOSH REL |
|                  |          | ST                            | 150 ppm<br>560 mg/m3                           | NIOSH REL |
|                  |          | TWA                           | 200 ppm                                        | OSHA Z-2  |
|                  |          | CEIL                          | 300 ppm                                        | OSHA Z-2  |
|                  |          | Peak                          | 500 ppm<br>(10 minutes)                        | OSHA Z-2  |
|                  |          | STEL                          | 150 ppm<br>560 mg/m3                           | OSHA P0   |
|                  |          | TWA                           | 100 ppm<br>375 mg/m3                           | OSHA P0   |

#### Biological occupational exposure limits

| Components | CAS-No.  | Control parameters | Biological specimen | Sampling time                                            | Permissible concentration | Basis     |
|------------|----------|--------------------|---------------------|----------------------------------------------------------|---------------------------|-----------|
| toluene    | 108-88-3 | Toluene            | In blood            | Prior to last shift of work-week                         | 0.02 mg/l                 | ACGIH BEI |
|            |          | Toluene            | Urine               | End of shift (As soon as possible after exposure ceases) | 0.03 mg/l                 | ACGIH BEI |

#### Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection  
Material : Wear chemical resistant gloves, such as barrier laminate,

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butyl rubber or nitrile rubber.

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

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective measures : Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.  
Ensure that eye flushing systems and safety showers are located close to the working place.  
Wear suitable protective equipment.

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

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Color : cream  
white

Odor : neutral

Odor Threshold : No data available

pH : 5.29 (76.8 °F / 24.9 °C)  
Concentration: 1.28 %

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : 171 - 174 °F / 77 - 79 °C

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|                                                  |   |                                              |
|--------------------------------------------------|---|----------------------------------------------|
| Evaporation rate                                 | : | No data available                            |
| Upper explosion limit / Upper flammability limit | : | No data available                            |
| Lower explosion limit / Lower flammability limit | : | No data available                            |
| Vapor pressure                                   | : | No data available                            |
| Relative vapor density                           | : | No data available                            |
| Relative density                                 | : | No data available                            |
| Density                                          | : | 1.2256 g/cm <sup>3</sup> (68.2 °F / 20.1 °C) |
| Bulk density                                     | : | No data available                            |
| Solubility(ies)                                  |   |                                              |
| Water solubility                                 | : | Miscible                                     |
| Solubility in other solvents                     | : | No data available                            |
| Partition coefficient: n-octanol/water           | : | No data available                            |
| Autoignition temperature                         | : | No data available                            |
| Decomposition temperature                        | : | No data available                            |
| Viscosity                                        |   |                                              |
| Viscosity, dynamic                               | : | 45.9 mPa.s (77.4 °F / 25.2 °C)               |
|                                                  |   | 42.1 mPa.s (113.5 °F / 45.3 °C)              |
| Viscosity, kinematic                             | : | No data available                            |
| Explosive properties                             | : | Not explosive                                |
| Oxidizing properties                             | : | Non-oxidizing                                |

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### SECTION 10. STABILITY AND REACTIVITY

|                                |   |                                                     |
|--------------------------------|---|-----------------------------------------------------|
| Reactivity                     | : | No decomposition if stored and applied as directed. |
| Chemical stability             | : | No decomposition if stored and applied as directed. |
| Possibility of hazardous reac- | : | No decomposition if stored and applied as directed. |

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|                                  |                                                                         |
|----------------------------------|-------------------------------------------------------------------------|
| tions                            | Vapors may form explosive mixture with air.                             |
| Conditions to avoid              | : Avoid extreme temperatures.<br>Protect from frost, heat and sunlight. |
| Incompatible materials           | : Avoid strong acids, bases, and oxidizers.                             |
| Hazardous decomposition products | : irritating gases                                                      |

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed.  
Harmful if inhaled.

#### Product:

|                           |                                                                                           |
|---------------------------|-------------------------------------------------------------------------------------------|
| Acute oral toxicity       | : LD50 Oral (Rat): 1,098 mg/kg<br>GLP: yes                                                |
| Acute inhalation toxicity | : LD50 (Rat): > 1.15 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>GLP: yes |
| Acute dermal toxicity     | : Acute toxicity estimate: > 5,000 mg/kg<br>Method: Calculation method                    |

#### Components:

##### Sulfentrazone:

|                           |                                                                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute oral toxicity       | : LD50 (Rat, female): 2,689 mg/kg<br>Symptoms: ataxia, clonic convulsions, Fatality<br>GLP: yes                                                                                                           |
| Acute inhalation toxicity | : LC50 (Rat, male and female): > 4.13 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: EPA OPP 81 - 3<br>Symptoms: ataxia, Breathing difficulties<br>GLP: yes<br>Remarks: no mortality |
| Acute dermal toxicity     | : LD50 (Rabbit, male and female): > 2,000 mg/kg<br>Method: EPA OPP 81-2<br>GLP: yes<br>Assessment: The component/mixture is minimally toxic after single contact with skin.                               |

##### Pyroxasulfone:

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Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat): > 6.56 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Remarks: no mortality

### propane-1,2-diol:

Acute oral toxicity : LD50 (Rat, male and female): 22,000 mg/kg

Acute inhalation toxicity : LC0 (Rabbit): 31.7 mg/l  
Exposure time: 2 h  
Test atmosphere: vapor  
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### sodium diisopropylnaphthalenesulphonate:

Acute oral toxicity : LD50 (Rat, female): > 300 - 2,000 mg/kg  
Method: OECD Test Guideline 423

### toluene:

Acute oral toxicity : LD50 (Rat): 5,580 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 25.7 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor

LC50 (Rat, female): 30 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor

Acute dermal toxicity : (Rabbit): 12,267 mg/kg

### Skin corrosion/irritation

Causes skin irritation.

### Product:

Species : Rabbit  
Result : slight irritation  
Remarks : May cause skin irritation in susceptible persons.

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### **Components:**

#### **Sulfentrazone:**

|            |   |                    |
|------------|---|--------------------|
| Species    | : | Rabbit             |
| Assessment | : | No skin irritation |
| Method     | : | EPA OPP 81-5       |
| Result     | : | No skin irritation |
| GLP        | : | yes                |

#### **Pyroxasulfone:**

|         |   |                    |
|---------|---|--------------------|
| Species | : | Rabbit             |
| Result  | : | No skin irritation |

#### **propane-1,2-diol:**

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Method  | : | OECD Test Guideline 404 |
| Result  | : | No skin irritation      |

#### **sodium diisopropylnaphthalenesulphonate:**

|         |   |                                             |
|---------|---|---------------------------------------------|
| Species | : | reconstructed human epidermis (RhE)         |
| Method  | : | OECD Test Guideline 431                     |
| Result  | : | Corrosive after 4 hours or less of exposure |

#### **toluene:**

|            |   |                                                       |
|------------|---|-------------------------------------------------------|
| Species    | : | Rabbit                                                |
| Assessment | : | Repeated exposure may cause skin dryness or cracking. |
| Result     | : | Skin irritation                                       |

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

### **Product:**

|         |   |                    |
|---------|---|--------------------|
| Species | : | Rabbit             |
| Result  | : | slight irritation  |
| Remarks | : | May irritate eyes. |

### **Components:**

#### **Sulfentrazone:**

|            |   |                   |
|------------|---|-------------------|
| Species    | : | Rabbit            |
| Result     | : | No eye irritation |
| Assessment | : | No eye irritation |
| Method     | : | EPA OPP 81-4      |
| GLP        | : | yes               |

#### **Pyroxasulfone:**

|         |   |                   |
|---------|---|-------------------|
| Species | : | Rabbit            |
| Result  | : | slight irritation |

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### propane-1,2-diol:

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Result  | : | No eye irritation       |
| Method  | : | OECD Test Guideline 405 |

### sodium diisopropylnaphthalenesulphonate:

|         |   |                                 |
|---------|---|---------------------------------|
| Species | : | Bovine cornea                   |
| Result  | : | Irreversible effects on the eye |
| Method  | : | OECD Test Guideline 437         |

### toluene:

|         |   |                   |
|---------|---|-------------------|
| Species | : | Rabbit            |
| Result  | : | No eye irritation |

### Respiratory or skin sensitization

#### Skin sensitization

Based on available data, the classification criteria are not met.

#### Respiratory sensitization

Based on available data, the classification criteria are not met.

### Product:

|           |   |                        |
|-----------|---|------------------------|
| Test Type | : | Local lymph node test  |
| Species   | : | Mouse                  |
| Result    | : | Not a skin sensitizer. |

### Components:

#### Sulfentrazone:

|           |   |                                    |
|-----------|---|------------------------------------|
| Test Type | : | Maximization Test                  |
| Species   | : | Guinea pig                         |
| Method    | : | OECD Test Guideline 406            |
| Result    | : | Does not cause skin sensitization. |

#### Pyroxasulfone:

|           |   |                                    |
|-----------|---|------------------------------------|
| Test Type | : | Local lymph node assay (LLNA)      |
| Species   | : | Mouse                              |
| Result    | : | Does not cause skin sensitization. |

### propane-1,2-diol:

|           |   |                   |
|-----------|---|-------------------|
| Test Type | : | Maximization Test |
| Species   | : | Guinea pig        |
| Result    | : | negative          |

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### **sodium diisopropylnaphthalenesulphonate:**

|           |   |                                        |
|-----------|---|----------------------------------------|
| Test Type | : | Direct Peptide Reactivity Assay (DPRA) |
| Method    | : | OECD Test Guideline 442C               |
| Result    | : | Does not cause skin sensitization.     |

### **toluene:**

|           |   |                        |
|-----------|---|------------------------|
| Test Type | : | Maximization Test      |
| Species   | : | Guinea pig             |
| Result    | : | Not a skin sensitizer. |

### **Germ cell mutagenicity**

Based on available data, the classification criteria are not met.

### **Components:**

#### **Sulfentrazone:**

|                       |   |                                                                                                         |
|-----------------------|---|---------------------------------------------------------------------------------------------------------|
| Genotoxicity in vitro | : | Test Type: Ames test<br>Metabolic activation: with and without metabolic activation<br>Result: negative |
|-----------------------|---|---------------------------------------------------------------------------------------------------------|

|  |   |                                                                                                                                        |
|--|---|----------------------------------------------------------------------------------------------------------------------------------------|
|  | : | Test Type: Mouse lymphoma assay<br>Test system: mouse lymphoma cells<br>Metabolic activation: Metabolic activation<br>Result: negative |
|--|---|----------------------------------------------------------------------------------------------------------------------------------------|

|                      |   |                                                                                                                    |
|----------------------|---|--------------------------------------------------------------------------------------------------------------------|
| Genotoxicity in vivo | : | Test Type: Micronucleus test<br>Species: Mouse<br>Application Route: Intraperitoneal injection<br>Result: negative |
|----------------------|---|--------------------------------------------------------------------------------------------------------------------|

|                                     |   |                                                    |
|-------------------------------------|---|----------------------------------------------------|
| Germ cell mutagenicity - Assessment | : | Animal testing did not show any mutagenic effects. |
|-------------------------------------|---|----------------------------------------------------|

#### **Pyroxasulfone:**

|                       |   |                                          |
|-----------------------|---|------------------------------------------|
| Genotoxicity in vitro | : | Test Type: Ames test<br>Result: negative |
|-----------------------|---|------------------------------------------|

|  |   |                                                                           |
|--|---|---------------------------------------------------------------------------|
|  | : | Test Type: In vitro mammalian cell gene mutation test<br>Result: negative |
|--|---|---------------------------------------------------------------------------|

|  |   |                                                                    |
|--|---|--------------------------------------------------------------------|
|  | : | Test Type: Chromosome aberration test in vitro<br>Result: negative |
|--|---|--------------------------------------------------------------------|

|                      |   |                                                                    |
|----------------------|---|--------------------------------------------------------------------|
| Genotoxicity in vivo | : | Test Type: Micronucleus test<br>Species: Mouse<br>Result: negative |
|----------------------|---|--------------------------------------------------------------------|

|                                     |   |                                                                            |
|-------------------------------------|---|----------------------------------------------------------------------------|
| Germ cell mutagenicity - Assessment | : | Weight of evidence does not support classification as a germ cell mutagen. |
|-------------------------------------|---|----------------------------------------------------------------------------|

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### propane-1,2-diol:

Genotoxicity in vitro : Test Type: reverse mutation assay  
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse  
Result: negative

### sodium diisopropylnaphthalenesulphonate:

Genotoxicity in vitro : Test Type: reverse mutation assay  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Remarks: No data available

### toluene:

Genotoxicity in vitro : Test Type: Ames test  
Result: negative

Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro  
Species: Rat  
Result: negative

### Carcinogenicity

Based on available data, the classification criteria are not met.

### Components:

#### Sulfentrazone:

Species : Rat, male and female  
Application Route : Ingestion  
Exposure time : 2 Years  
Result : negative

Species : Mouse, male and female  
Application Route : Ingestion  
Exposure time : 18 month(s)  
Result : negative

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

#### Pyroxasulfone:

Species : Rat, male  
Exposure time : 2 Years  
: 2.2 mg/kg bw/day

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Result : positive  
Target Organs : Bladder

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

### propane-1,2-diol:

Species : Rat  
Application Route : Oral  
Exposure time : 2 Years  
Result : negative

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient 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

Based on available data, the classification criteria are not met.

### Components:

#### Sulfentrazone:

Effects on fertility : Test Type: Two-generation study  
Species: Rat, male and female  
Application Route: Oral  
General Toxicity Parent: NOEL: 13.7 - 16.2 mg/kg bw/day  
General Toxicity F1: NOEL: 13.7 - 16.2 mg/kg bw/day  
Symptoms: Maternal effects.

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: NOEL: 25 mg/kg bw/day  
Developmental Toxicity: NOEL: 10 mg/kg bw/day  
Method: EPA OPP 83-3

Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: LOAEL: 50 mg/kg bw/day  
Developmental Toxicity: LOAEL F1: 25 mg/kg bw/day  
Symptoms: Skeletal malformations.  
Target Organs: spleen  
Method: EPA OPP 83-3

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### Pyroxasulfone:

#### propane-1,2-diol:

Effects on fertility : Test Type: reproductive and developmental toxicity study  
Species: Mouse  
Application Route: Oral  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Mouse  
Application Route: Oral  
Method: OECD Test Guideline 414  
Result: Animal testing did not show any effects on fertility.  
Remarks: Based on data from similar materials

#### toluene:

Effects on fetal development : Species: Rat  
Application Route: Inhalation  
Result: Teratogenic effects.  
Remarks: Adverse developmental effects were observed

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

### STOT-single exposure

Based on available data, the classification criteria are not met.

#### Components:

##### Sulfentrazone:

Remarks : No significant adverse effects were reported

#### toluene:

Assessment : May cause drowsiness or dizziness.

### STOT-repeated exposure

Causes damage to organs (Nervous system, Kidney, Liver, Cardio-vascular system, Bladder) through prolonged or repeated exposure.  
May cause damage to organs (hematopoietic system) through prolonged or repeated exposure.  
May cause damage to organs (inner ear) through prolonged or repeated exposure if inhaled.

#### Components:

##### Sulfentrazone:

Target Organs : hematopoietic system, Nervous system  
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

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### Pyroxasulfone:

|               |                                                                                                            |
|---------------|------------------------------------------------------------------------------------------------------------|
| Target Organs | : Nervous system, Kidney, Liver, Cardio-vascular system, Bladder                                           |
| Assessment    | : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1. |

### toluene:

|                    |                                                                                                            |
|--------------------|------------------------------------------------------------------------------------------------------------|
| Routes of exposure | : Inhalation                                                                                               |
| Target Organs      | : inner ear                                                                                                |
| Assessment         | : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2. |

### Repeated dose toxicity

#### Components:

##### Sulfentrazone:

|                   |                        |
|-------------------|------------------------|
| Species           | : Rat, male            |
| NOAEL             | : 19.9 mg/kg           |
| LOAEL             | : 65.8 mg/kg           |
| Application Route | : Oral - feed          |
| Exposure time     | : 90-days              |
| GLP               | : yes                  |
| Target Organs     | : hematopoietic system |

|                   |                        |
|-------------------|------------------------|
| Species           | : Mouse, male          |
| NOAEL             | : 60 mg/kg             |
| LOAEL             | : 108.4 mg/kg          |
| Application Route | : Oral - feed          |
| Exposure time     | : 90-days              |
| Target Organs     | : hematopoietic system |

|                   |                               |
|-------------------|-------------------------------|
| Species           | : Dog, male                   |
| NOAEL             | : 10 mg/kg                    |
| LOAEL             | : 28 mg/kg                    |
| Application Route | : Oral - feed                 |
| Exposure time     | : 90-days                     |
| Target Organs     | : hematopoietic system, Liver |

##### propane-1,2-diol:

|                   |                        |
|-------------------|------------------------|
| Species           | : Rat, male and female |
| NOAEL             | : 1,700 mg/kg          |
| Application Route | : Oral                 |
| Exposure time     | : 2 Years              |

|                   |                        |
|-------------------|------------------------|
| Species           | : Rat, male and female |
| NOAEL             | : 1,000 mg/kg          |
| LOAEL             | : 160 mg/kg            |
| Application Route | : Inhalation           |
| Exposure time     | : 90 Days              |

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### sodium diisopropylnaphthalenesulphonate:

Remarks : No data available

### toluene:

Species : Rat  
NOAEL : 625 mg/kg  
Application Route : Oral  
Symptoms : central nervous system effects

Species : Rat  
NOAEL : 0.098 mg/l  
Application Route : Inhalation  
Test atmosphere : vapor

Species : Rat  
LOAEL : 2.261 mg/l  
Application Route : Inhalation  
Test atmosphere : vapor

### Aspiration toxicity

Based on available data, the classification criteria are not met.

### Components:

#### Sulfentrazone:

The substance does not have properties associated with aspiration hazard potential.

### toluene:

May be fatal if swallowed and enters airways.

### Neurological effects

### Components:

#### Sulfentrazone:

Neurotoxicity observed in animals studies

### Further information

### Product:

Remarks : No data available

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

### Components:

#### Sulfentrazone:

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|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                                       | : LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l<br>Exposure time: 96 h<br>Test Type: flow-through test<br>Method: EPA OPP 72-1<br><br>LC50 (Lepomis macrochirus (Bluegill sunfish)): 93.8 mg/l<br>Exposure time: 96 h<br>Test Type: flow-through test<br>Method: EPA OPP 72-1                                                                                                                                                                                                 |
| Toxicity to daphnia and other aquatic invertebrates                    | : EC50 (Daphnia magna (Water flea)): 60.4 mg/l<br>Exposure time: 48 h<br>Test Type: flow-through test<br><br>NOEC (Daphnia magna (Water flea)): 14.1 mg/l<br>Exposure time: 48 h<br>Test Type: flow-through test                                                                                                                                                                                                                                                                       |
| Toxicity to algae/aquatic plants                                       | : EC50 (algae): 32.8 mg/l<br>Exposure time: 72 h<br><br>EC50 (Pseudokirchneriella subcapitata (green algae)): 0.031 mg/l<br>Exposure time: 120 h<br><br>EC50 (Lemna gibba (duckweed)): 0.0288 mg/l<br>Exposure time: 14 d<br><br>EC50 (Navicula pelliculosa (Diatom)): 0.042 mg/l<br>Exposure time: 120 h                                                                                                                                                                              |
| Toxicity to fish (Chronic toxicity)                                    | : NOEC (Fish): 5.9 mg/l<br>Exposure time: 21 d                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (Crustaceans): 0.51 mg/l<br>Exposure time: 21 d                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Toxicity to terrestrial organisms                                      | : LD50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm<br>End point: Acute oral toxicity<br><br>NOEL (Anas platyrhynchos (Mallard duck)): 3,160 ppm<br>End point: Acute oral toxicity<br><br>LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm<br>End point: Acute oral toxicity<br><br>NOEL (Colinus virginianus (Bobwhite quail)): 5,620 ppm<br>End point: Acute oral toxicity<br><br>NOEL (Colinus virginianus (Bobwhite quail)): > 100 ppm<br>End point: Reproduction Test |

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NOEL (Anas platyrhynchos (Mallard duck)): > 100 ppm  
End point: Reproduction Test

LD50 (Apis mellifera (bees)): > 25 µg/bee  
End point: Acute oral toxicity

LD50 (Apis mellifera (bees)): > 200 µg/bee  
End point: Acute contact toxicity

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### Pyroxasulfone:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 202 mg/l  
Exposure time: 96 h

LL50 (Lepomis macrochirus (Bluegill sunfish)): > 208 mg/l  
Exposure time: 96 h

LL50 (Cyprinodon variegatus (sheepshead minnow)): > 3.3 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 4.4 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (green algae): 0.000743 mg/l  
Exposure time: 72 h

EC50 (Lemna gibba (duckweed)): 0.00043 mg/l  
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 2 mg/l  
Exposure time: 28 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.9 mg/l  
Exposure time: 21 d

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 997 mg/kg  
Exposure time: 14 d

Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): > 100 µg/bee  
Exposure time: 48 d  
Remarks: Contact

LOEC (Anas platyrhynchos (Mallard duck)): 60 mg/kg  
End point: Reproduction Test

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### propane-1,2-diol:

|                                                                        |   |                                                                                                                             |
|------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                                       | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l<br>Exposure time: 96 h                                              |
| Toxicity to daphnia and other aquatic invertebrates                    | : | (Mysidopsis bahia (opossum shrimp)): 18,800 mg/l<br>Exposure time: 96 h                                                     |
| Toxicity to algae/aquatic plants                                       | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 34,100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 13,020 mg/l<br>Exposure time: 7 d                                                                                     |
| Toxicity to microorganisms                                             | : | EC50 (Pseudomonas putida): > 20,000 mg/l<br>Exposure time: 18 h                                                             |

### sodium diisopropylnaphthalenesulphonate:

|                                                     |   |                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 72 mg/l<br>Exposure time: 48 h<br>Test Type: static test<br>Method: OECD Test Guideline 202                                                                                                                                                                    |
| Toxicity to algae/aquatic plants                    | : | EC50 (Pseudokirchneriella subcapitata (algae)): > 100 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Method: OECD Test Guideline 201<br><br>NOEC (Pseudokirchneriella subcapitata (algae)): 10 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Method: OECD Test Guideline 201 |

### toluene:

|                                                                        |   |                                                                             |
|------------------------------------------------------------------------|---|-----------------------------------------------------------------------------|
| Toxicity to fish                                                       | : | LC50 (Fish): 5.5 mg/l<br>Exposure time: 96 h                                |
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50: 3.78 mg/l<br>Exposure time: 48 h                                      |
| Toxicity to algae/aquatic plants                                       | : | NOEC (Skeletonema costatum (marine diatom)): 10 mg/l<br>Exposure time: 72 h |
| Toxicity to fish (Chronic toxicity)                                    | : | NOEC (Oncorhynchus kisutch (coho salmon)): 1.4 mg/l                         |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Ceriodaphnia sp.): 0.74 mg/l<br>Exposure time: 7 d                    |

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Toxicity to microorganisms : EC50 (Bacteria): 134 mg/l  
Exposure time: 3 h

### Persistence and degradability

#### Components:

##### **Sulfentrazone:**

Biodegradability : Result: Not readily biodegradable.  
Stability in water : Degradation half life (DT50): 2.22 - 9.56 h  
Photodegradation : Remarks: Decomposes rapidly in contact with light.

##### **Pyroxasulfone:**

Biodegradability : Result: Not readily biodegradable.

##### **propane-1,2-diol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 23.6 %  
Exposure time: 64 d  
Method: OECD Test Guideline 306

##### **sodium diisopropylnaphthalenesulphonate:**

Biodegradability : Inoculum: activated sludge, non-adapted  
Result: Not readily biodegradable.  
Biodegradation: 2 %  
Exposure time: 21 d  
Method: OECD Test Guideline 301D

##### **toluene:**

Biodegradability : Result: Readily biodegradable.

### Bioaccumulative potential

#### Components:

##### **Sulfentrazone:**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
GLP: yes  
Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : Pow: 9.8  
pH: 7

##### **Pyroxasulfone:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

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Partition coefficient: n-octanol/water : log Pow: 2.39 (77 °F / 25 °C)

### propane-1,2-diol:

Partition coefficient: n-octanol/water : log Pow: -1.07

### sodium diisopropylnaphthalenesulphonate:

Partition coefficient: n-octanol/water : log Pow: > 2.6 (68 °F / 20 °C)

### toluene:

Bioaccumulation : Bioconcentration factor (BCF): 90

Partition coefficient: n-octanol/water : log Pow: 2.73 (68 °F / 20 °C)

### Mobility in soil

#### Components:

#### **Sulfentrazone:**

Mobility : Medium: Water  
Remarks: Predicted distribution to environmental compartments

Distribution among environmental compartments : Koc: 43 ml/g, log Koc: 1.63  
Remarks: Highly mobile in soils

Stability in soil : Remarks: Very persistent in soil.

#### **Pyroxasulfone:**

Distribution among environmental compartments : Adsorption/Soil  
Koc: 57 - 114 ml/g, log Koc: > 1.75  
Remarks: Highly mobile in soils

Stability in soil :

### Other adverse effects

#### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

### Global warming potential

**Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC)**

#### Components:

##### **octamethylcyclotetrasiloxane [D4]:**

20-year global warming potential: 2.66  
100-year global warming potential: 0.739  
500-year global warming potential: 0.211  
Atmospheric lifetime: 0.027 yr  
Radiative efficiency: 0.12 Wm<sup>2</sup>ppb  
Further information: Miscellaneous compounds

##### **decamethylcyclopentasiloxane:**

20-year global warming potential: 1.04  
100-year global warming potential: 0.289  
500-year global warming potential: 0.082  
Atmospheric lifetime: 0.016 yr  
Radiative efficiency: 0.098 Wm<sup>2</sup>ppb  
Further information: Miscellaneous compounds

##### **dodecamethylcyclohexasiloxane:**

20-year global warming potential: 0.51  
100-year global warming potential: 0.142  
500-year global warming potential: 0.04  
Atmospheric lifetime: 0.011 yr  
Radiative efficiency: 0.086 Wm<sup>2</sup>ppb  
Further information: Miscellaneous compounds

## 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.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

|                           |   |                                                                                       |
|---------------------------|---|---------------------------------------------------------------------------------------|
| UN number                 | : | UN 3082                                                                               |
| Proper shipping name      | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(Pyroxasulfone, Sulfentrazone) |
| Class                     | : | 9                                                                                     |
| Packing group             | : | III                                                                                   |
| Labels                    | : | 9                                                                                     |
| Environmentally hazardous | : | yes                                                                                   |

##### IATA-DGR

|                                          |   |                                                                                       |
|------------------------------------------|---|---------------------------------------------------------------------------------------|
| UN/ID No.                                | : | UN 3082                                                                               |
| Proper shipping name                     | : | Environmentally hazardous substance, liquid, n.o.s.<br>(Pyroxasulfone, Sulfentrazone) |
| Class                                    | : | 9                                                                                     |
| Packing group                            | : | III                                                                                   |
| Labels                                   | : | Miscellaneous                                                                         |
| Packing instruction (cargo aircraft)     | : | 964                                                                                   |
| Packing instruction (passenger aircraft) | : | 964                                                                                   |
| Environmentally hazardous                | : | yes                                                                                   |

##### IMDG-Code

|                      |   |                                                                                       |
|----------------------|---|---------------------------------------------------------------------------------------|
| UN number            | : | UN 3082                                                                               |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(Pyroxasulfone, Sulfentrazone) |
| Class                | : | 9                                                                                     |
| Packing group        | : | III                                                                                   |
| Labels               | : | 9                                                                                     |
| EmS Code             | : | F-A, S-F                                                                              |
| Marine pollutant     | : | yes                                                                                   |

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### Domestic regulation

##### 49 CFR Road

|                      |   |                                                                                       |
|----------------------|---|---------------------------------------------------------------------------------------|
| UN/ID/NA number      | : | UN 3082                                                                               |
| Proper shipping name | : | Environmentally hazardous substance, liquid, n.o.s.<br>(Pyroxasulfone, Sulfentrazone) |
| Class                | : | 9                                                                                     |
| Packing group        | : | III                                                                                   |
| Labels               | : | CLASS 9                                                                               |
| ERG Code             | : | 171                                                                                   |
| Marine pollutant     | : | yes                                                                                   |

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### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

| Components | CAS-No.  | Component RQ (lbs) | Calculated product RQ (lbs) |
|------------|----------|--------------------|-----------------------------|
| toluene    | 108-88-3 | 100                | 100 (F005)                  |

### CERCLA Reportable Quantity

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

### SARA 304 Extremely Hazardous Substances Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|------------|---------|--------------------|-----------------------------|
|------------|---------|--------------------|-----------------------------|

### SARA 304 Extremely Hazardous Substances Reportable Quantity

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

### SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the 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)  
Specific target organ toxicity (single or repeated exposure)  
No SARA Hazards

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

|         |          |              |
|---------|----------|--------------|
| toluene | 108-88-3 | >= 1 - < 5 % |
|---------|----------|--------------|

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

|         |          |              |
|---------|----------|--------------|
| toluene | 108-88-3 | >= 1 - < 5 % |
|---------|----------|--------------|

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

|                  |          |               |
|------------------|----------|---------------|
| propane-1,2-diol | 57-55-6  | >= 5 - < 10 % |
| toluene          | 108-88-3 | >= 1 - < 5 %  |

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### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

|                    |           |                |
|--------------------|-----------|----------------|
| toluene            | 108-88-3  | >= 1 - < 5 %   |
| ammonia, anhydrous | 7664-41-7 | >= 0 - < 0.1 % |

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

|                    |           |                |
|--------------------|-----------|----------------|
| toluene            | 108-88-3  | >= 1 - < 5 %   |
| ammonia, anhydrous | 7664-41-7 | >= 0 - < 0.1 % |

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

|         |          |              |
|---------|----------|--------------|
| toluene | 108-88-3 | >= 1 - < 5 % |
|---------|----------|--------------|

This product contains the following priority pollutants related to the U.S. Clean Water Act:

|         |          |              |
|---------|----------|--------------|
| toluene | 108-88-3 | >= 1 - < 5 % |
|---------|----------|--------------|

### US State Regulations

#### Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

#### Massachusetts Right To Know

|                    |           |
|--------------------|-----------|
| toluene            | 108-88-3  |
| ammonia, anhydrous | 7664-41-7 |

#### Pennsylvania Right To Know

|                                                                                                           |              |
|-----------------------------------------------------------------------------------------------------------|--------------|
| water                                                                                                     | 7732-18-5    |
| 2',4'-DICHLORO-5'-(4-DIFLUOROMETHYL-4,5-DIHYDRO-3-METHYL-5-OXO-1H-1,2,4-TRIAZOL-1-YL)METHANESULFONANILIDE | Not Assigned |
| Pyroxasulfone                                                                                             | 447399-55-5  |
| propane-1,2-diol                                                                                          | 57-55-6      |
| sodium sulphate                                                                                           | 7757-82-6    |

#### Pennsylvania Right To Know

|                    |             |
|--------------------|-------------|
| water              | 7732-18-5   |
| Sulfentrazone      | 122836-35-5 |
| Pyroxasulfone      | 447399-55-5 |
| propane-1,2-diol   | 57-55-6     |
| toluene            | 108-88-3    |
| sodium sulphate    | 7757-82-6   |
| ammonia, anhydrous | 7664-41-7   |

#### Maine Chemicals of High Concern

|                                   |          |
|-----------------------------------|----------|
| toluene                           | 108-88-3 |
| octamethylcyclotetrasiloxane [D4] | 556-67-2 |

#### Vermont Chemicals of High Concern

|                                   |          |
|-----------------------------------|----------|
| toluene                           | 108-88-3 |
| octamethylcyclotetrasiloxane [D4] | 556-67-2 |

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### Washington Chemicals of High Concern

toluene

108-88-3

### California Prop. 65

WARNING: This product can expose you to chemicals including toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### California List of Hazardous Substances

toluene

108-88-3

### California Permissible Exposure Limits for Chemical Contaminants

toluene

108-88-3

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

|       |                                                                                                                                                                                                                                                                                                                |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TCSI  | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| TSCA  | : Product contains substance(s) not listed on TSCA inventory.                                                                                                                                                                                                                                                  |
| AIIC  | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| DSL   | : This product contains chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product. |
| ENCS  | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| ISHL  | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| KECI  | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| PICCS | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| IECSC | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| NZIoC | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |
| TECI  | : Not in compliance with the inventory                                                                                                                                                                                                                                                                         |

### TSCA list

No substances are subject to a Significant New Use Rule.

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

### FIFRA information

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

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workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

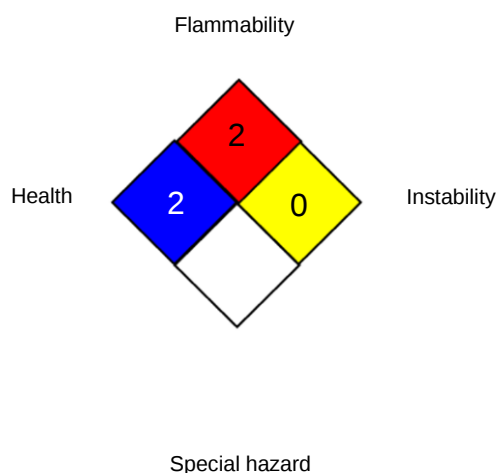
### CAUTION

Harmful if swallowed, Harmful if inhaled, Avoid breathing dust or spray mist., Avoid contact with skin, eyes and clothing.

## SECTION 16. OTHER INFORMATION

### Further information

#### NFPA 704:



0 No health threat, 1 Slightly Hazardous, 2 Hazardous, 3 Extreme danger, 4 Deadly

#### HMIS® IV:

|                 |   |   |
|-----------------|---|---|
| HEALTH          | * | 3 |
| FLAMMABILITY    |   | 2 |
| PHYSICAL HAZARD |   | 0 |

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

|                 |                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------|
| ACGIH           | : USA. ACGIH Threshold Limit Values (TLV)                                                   |
| ACGIH BEI       | : ACGIH - Biological Exposure Indices (BEI)                                                 |
| NIOSH REL       | : USA. NIOSH Recommended Exposure Limits                                                    |
| OSHA P0         | : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)                        |
| OSHA Z-2        | : USA. Occupational Exposure Limits (OSHA) - Table Z-2                                      |
| US WEEL         | : USA. Workplace Environmental Exposure Levels (WEEL)                                       |
| ACGIH / TWA     | : 8-hour, time-weighted average                                                             |
| NIOSH REL / TWA | : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek |
| NIOSH REL / ST  | : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday    |
| OSHA P0 / TWA   | : 8-hour time weighted average                                                              |
| OSHA P0 / STEL  | : Short-term exposure limit                                                                 |
| OSHA Z-2 / TWA  | : 8-hour time weighted average                                                              |

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|                 |   |                                                                                      |
|-----------------|---|--------------------------------------------------------------------------------------|
| OSHA Z-2 / CEIL | : | Acceptable ceiling concentration                                                     |
| OSHA Z-2 / Peak | : | Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift |
| US WEEL / TWA   | : | 8-hr TWA                                                                             |

AIIC - Australian Inventory of Industrial Chemicals; 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; TECI - Thailand Existing Chemicals 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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US / EN

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End of Material Safety Data Sheet