

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Echelon® RTS Herbicide

Version	Revision Date:	SDS Number:	Date of last issue: 03/04/2020
1.5	12/04/2024	50000548	Date of first issue: 03/04/2020

### SECTION 1. IDENTIFICATION

#### Product identifier

**Product name** Echelon® RTS Herbicide

#### Other means of identification

**Product code** 50000548

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

**Recommended use** Herbicide

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

#### Manufacturer or supplier's details

**Manufacturer** FMC Corporation  
2929 WALNUT ST  
PHILADELPHIA PA 19104  
USA  
(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)

### SECTION 2. HAZARDS IDENTIFICATION

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

Acute toxicity (Inhalation) : Category 4

Specific target organ toxicity : Category 2  
- repeated exposure

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### GHS label elements

Hazard pictograms

:



Signal Word

: WARNING

Hazard Statements

: H332 Harmful if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

: **Prevention:**  
P260 Do not breathe mist or vapors.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P271 Use only outdoors or in a well-ventilated area.  
**Response:**  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.  
P314 Get medical attention if you feel unwell.  
**Disposal:**  
P501 Dispose of contents and container to an approved waste disposal plant.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Components

Chemical name	CAS-No.	Concentration (% w/w)
2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine	29091-21-2	2.73
Sulfentrazone	122836-35-5	1.36
glycerol	56-81-5	>= 1 - < 5
propane-1,2-diol	57-55-6	>= 0 - < 1

## SECTION 4. FIRST AID MEASURES

General advice

: Move out of dangerous area.  
Consult a physician.  
Show this material safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.

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- |   |   |
|---|---|
| If inhaled  | : Move to fresh air.<br>If breathing is labored, administer oxygen.<br>If not breathing, give artificial respiration.<br>If unconscious, place in recovery position and seek medical advice.<br>If symptoms persist, call a physician.                                    |
| In case of skin contact                                     | : Take off all contaminated clothing immediately.<br>Wash off immediately with plenty of water for at least 15 minutes.<br>Wash clothing before reuse.<br>Get medical attention immediately if irritation develops and persists.  |
| In case of eye contact                                      | : Immediately flush eye(s) with plenty of water.<br>Remove contact lenses.<br>Protect unharmed eye.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist.   |
| If swallowed  | : Keep respiratory tract clear.<br>Do not induce vomiting without medical advice.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.<br>Take victim immediately to hospital. |
| Most important symptoms and effects, both acute and delayed | : Harmful if inhaled.<br>May cause damage to organs through prolonged or repeated exposure.   |
| Notes to physician  | : Treat symptomatically.  |

### SECTION 5. FIRE-FIGHTING MEASURES

- |                                       |  |
|---------------------------------------|--|
| Suitable extinguishing media          | : Dry chemical, CO2, water spray or regular foam.  |
| Unsuitable extinguishing media        | : 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         | : Carbon oxides<br>Nitrogen oxides (NOx)<br>Hydrogen cyanide<br>Fluorinated compounds<br>Hydrogen fluoride<br>Fire may produce irritating, corrosive and/or toxic gases.<br>Chlorinated compounds<br>Sulfur oxides |

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Hydrogen chloride

- 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.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.  
Use personal protective equipment.  
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 : 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 : 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 : Prevent unauthorized access.  
Keep container tightly closed in a dry and well-ventilated place.

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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.

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
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Mist - total dust)	10 mg/m3	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m3	OSHA P0

#### Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

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

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Hygiene measures : Avoid contact with skin, eyes and clothing.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Color	: yellow
Odor	: No data available
Odor Threshold	: No data available
pH	: 6.06
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: No data available
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	: 1.04 g/cm <sup>3</sup>
Bulk density	: No data available
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available

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

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

### 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 reactions : No decomposition if stored and applied as directed.

Conditions to avoid : Avoid extreme temperatures.

Incompatible materials : Avoid strong acids, bases, and oxidizers.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if inhaled.

#### Product:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2.09 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

#### Components:

**2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:**

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Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 0.000256 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

### **Sulfentrazone:**

Acute oral toxicity : LD50 (Rat, female): 2,689 mg/kg  
Symptoms: ataxia, clonic convulsions, Fatality  
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.13 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: EPA OPP 81 - 3  
Symptoms: ataxia, Breathing difficulties  
GLP: yes  
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg  
Method: EPA OPP 81-2  
GLP: yes  
Assessment: The component/mixture is minimally toxic after single contact with skin.

### **glycerol:**

Acute oral toxicity : LD50 (Rat, female): 11,500 mg/kg

Acute inhalation toxicity : LC0 (Rat, male): 11 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Guinea pig, male and female): 56,750 mg/kg

### **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

### **Skin corrosion/irritation**

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



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### **Product:**

Species : Rabbit  
Result : slight irritation

Remarks : May cause skin irritation in susceptible persons.

### **Components:**

#### **2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:**

Species : Rabbit  
Result : No skin irritation

#### **Sulfentrazone:**

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

#### **glycerol:**

Species : Rabbit  
Result : No skin irritation

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

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

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

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

### **Product:**

Species : Rabbit  
Result : Mild eye irritant

Remarks : Vapors may cause irritation to the eyes, respiratory system and the skin.

### **Components:**

#### **2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:**

Result : Mild eye irritation

#### **Sulfentrazone:**

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

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GLP : yes

### glycerol:

Species : Rabbit  
Result : No eye irritation

### propane-1,2-diol:

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

## 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:

Assessment : Did not cause sensitization on laboratory animals.  
Result : Not a skin sensitizer.

### Components:

#### 2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:

Result : Does not cause skin sensitization.

### Sulfentrazone:

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

### propane-1,2-diol:

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

## Germ cell mutagenicity

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

### Components:

#### 2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:

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

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### **Sulfentrazone:**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Result: negative

Test Type: Mouse lymphoma assay  
Test system: mouse lymphoma cells  
Metabolic activation: Metabolic activation  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

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

### **glycerol:**

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

### **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

### **Carcinogenicity**

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

### **Components:**

#### **2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:**

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

### **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

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

### glycerol:

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

### 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:

#### 2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### 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

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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

### glycerol:

Effects on fertility : Test Type: Two-generation study  
Species: Rat  
Application Route: Oral  
Result: negative

Effects on fetal development : Test Type: Two-generation study  
Species: Rat  
Application Route: Oral  
Result: negative

### 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

### STOT-single exposure

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

### Components:

#### Sulfentrazone:

Remarks : No significant adverse effects were reported

### STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

### Product:

Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

### Components:

#### Sulfentrazone:

Target Organs : hematopoietic system

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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

##### **glycerol:**

Species : Rat  
LOAEL : 1 mg/kg  
Application Route : Inhalation  
Exposure time : 14 d  
Dose : 0, 1, 1.93, 3.91 mg/L  
Symptoms : respiratory tract irritation, Fatality

Species : Rat  
NOAEL : 0.165 mg/l  
LOAEL : 0.662 mg/l  
Application Route : Inhalation  
Exposure time : 13 w  
Dose : 0, 0.033, 0.165, 0.662 mg/L  
Symptoms : respiratory tract irritation

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

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

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

### 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.

### Neurological effects

#### Components:

#### **Sulfentrazone:**

Neurotoxicity observed in animals studies

### Further information

#### Product:

Remarks : No data available

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### **2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:**

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): > 829 µg/l Exposure time: 96 h  LC50 (Lepomis macrochirus (Bluegill sunfish)): > 552 µg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): > 658 µg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: EC50 (algae): 3 - 10 µg/l Exposure time: 72 h
Toxicity to terrestrial organisms	: LD50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg  LD50 (Apis mellifera (bees)): > 100 µg/bee

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### Sulfentrazone:

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



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NOEL (Colinus virginianus (Bobwhite quail)): > 100 ppm  
End point: Reproduction Test

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.

#### glycerol:

Toxicity to fish : LC50 (Fish): 885 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,955 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Scenedesmus capricornutum (fresh water algae)): 2,900 mg/l  
Exposure time: 192 h

Toxicity to microorganisms : EC10 (Pseudomonas putida): 10,000 mg/l  
Exposure time: 16 h

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

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : (Mysidopsis bahia (opossum shrimp)): 18,800 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 34,100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 13,020 mg/l  
Exposure time: 7 d

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 20,000 mg/l  
Exposure time: 18 h

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### Persistence and degradability

#### Components:

##### **2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:**

Stability in water : Remarks: Does not readily hydrolyze

##### **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.

##### **glycerol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 94 %  
Exposure time: 24 h

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

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

### Bioaccumulative potential

#### Components:

##### **2,4-dinitro-N',N'-dipropyl-6-(trifluoromethyl)benzene-1,3-diamine:**

Partition coefficient: n-octanol/water : log Pow: 4.1

##### **Sulfentrazone:**

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

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

##### **glycerol:**

Partition coefficient: n-octanol/water : log Pow: -1.75 (77 °F / 25 °C)  
pH: 7.4

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

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

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### 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.

### 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).
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.

## 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.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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N.O.S.  
(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. (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. (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. (Sulfentrazone)
Class	:	9
Packing group	:	III
Labels	:	CLASS 9
ERG Code	:	171
Marine pollutant	:	yes(Sulfentrazone)

### 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.

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### SECTION 15. REGULATORY INFORMATION

#### CERCLA Reportable Quantity

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

#### 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)  
Respiratory or skin sensitization  
Specific target organ toxicity (single or repeated exposure)

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### 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).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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):

glycerol	56-81-5	>= 1 - < 5 %
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#### Clean Water Act

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

toluene	108-88-3	>= 0 - < 0.1 %
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The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

toluene	108-88-3	>= 0 - < 0.1 %
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This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

#### US State Regulations

##### Massachusetts Right To Know

glycerol	56-81-5
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##### Pennsylvania Right To Know

water	7732-18-5
glycerol	56-81-5
toluene	108-88-3

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### Maine Chemicals of High Concern

toluene	108-88-3
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### Vermont Chemicals of High Concern

toluene	108-88-3
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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 Permissible Exposure Limits for Chemical Contaminants

glycerol	56-81-5
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### 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

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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:

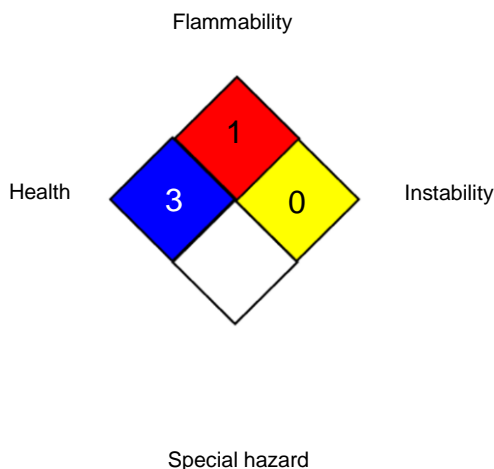
### CAUTION

Avoid contact with skin, eyes and clothing., Avoid breathing dust or spray mist., Harmful if swallowed, Harmful if absorbed through the skin., Harmful if inhaled, Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## 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		1
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

OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

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

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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; TECL - 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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End of Material Safety Data Sheet