



# SAFETY DATA SHEET

## DOW AGROSCIENCES LLC

**Product name:** CONFRONT™ Herbicide

**Issue Date:** 10/26/2020

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DOW AGROSCIENCES LLC encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container.

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## 1. IDENTIFICATION

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**Product name:** CONFRONT™ Herbicide

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

**Identified uses:** End use herbicide product

**COMPANY IDENTIFICATION**

DOW AGROSCIENCES LLC  
9330 ZIONSVILLE RD  
INDIANAPOLIS, IN, 46268-1053  
UNITED STATES

**Customer Information Number** : 800-992-5994  
**E-mail address** : customerinformation@corteva.com

**EMERGENCY TELEPHONE**

**24-Hour Emergency Contact** : 800-992-5994  
**Local Emergency Contact** : 352-323-3500

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## 2. HAZARDS IDENTIFICATION

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**Hazard classification**

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)  
Flammable liquids - Category 4  
Acute toxicity - Category 4 - Oral  
Serious eye damage - Category 1  
Skin sensitisation - Sub-category 1B  
Specific target organ toxicity - single exposure - Category 3  
Specific target organ toxicity - repeated exposure - Category 2

**Label elements**

**Hazard pictograms**



Signal Word: **DANGER!**

**Hazards**

- Combustible liquid.
- Harmful if swallowed.
- May cause an allergic skin reaction.
- Causes serious eye damage.
- May cause respiratory irritation.
- May cause damage to organs (Kidney, Respiratory Tract) through prolonged or repeated exposure.

**Precautionary statements**

**Prevention**

- Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- Wash skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves/ eye protection/ face protection.

**Response**

- IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
- IF ON SKIN: Wash with plenty of soap and water.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
- Get medical advice/ attention if you feel unwell.
- If skin irritation or rash occurs: Get medical advice/ attention.
- Wash contaminated clothing before reuse.
- In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage**

- Store in a well-ventilated place. Keep container tightly closed.
- Store in a well-ventilated place. Keep cool.
- Store locked up.

**Disposal**

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

**Other hazards**

No data available

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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This product is a mixture.

Component	CASRN	Concentration
Triclopyr Triethylamine Salt	57213-69-1	33.0%
Clopyralid Triethylamine Salt	119308-91-7	12.1%
Triethylamine	121-44-8	3.3%
Ethylenediamine tetraacetic acid	60-00-4	1.7%
Ethanol	64-17-5	1.6%
Balance	Not available	48.3%

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#### 4. FIRST AID MEASURES

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##### Description of first aid measures

###### General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.

**Eye contact:** Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

###### Most important symptoms and effects, both acute and delayed:

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

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

**Notes to physician:** Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. No specific antidote. Treatment of exposure should be directed at the

control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## 5. FIRE-FIGHTING MEASURES

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**Suitable extinguishing media:** To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

**Unsuitable extinguishing media:** No data available

### Special hazards arising from the substance or mixture

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** This material will not burn until the water has evaporated. Residue can burn. May produce flash fire. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes.

### Advice for firefighters

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. No smoking in area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact the company for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Keep away from heat, sparks and flame. Keep out of reach of children. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Do not swallow. Avoid breathing vapor or mist. Wash thoroughly after handling. Use with adequate ventilation. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Triclopyr Triethylamine Salt	Dow IHG	TWA	2 mg/m3
	Dow IHG	TWA	SKIN, DSEN, BEI
Triethylamine	Dow IHG	TWA	1 ppm
	Dow IHG	TWA	SKIN
	Dow IHG	STEL	3 ppm
	Dow IHG	STEL	SKIN
	ACGIH	TWA	0.5 ppm
	ACGIH	STEL	1 ppm
	ACGIH	TWA	SKIN
	OSHA Z-1	TWA	100 mg/m3 25 ppm
Ethylenediamine tetraacetic acid	ACGIH	STEL	SKIN
	Dow IHG	TWA	10 mg/m3
Ethanol	ACGIH	STEL	1,000 ppm
	OSHA Z-1	TWA	1,900 mg/m3 1,000 ppm

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use chemical goggles.

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene.

Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance</b>	
<b>Physical state</b>	Liquid.
<b>Color</b>	Yellow to purple
<b>Odor</b>	Amine.
<b>Odor Threshold</b>	No test data available
<b>pH</b>	8.1 1% <i>pH Electrode</i> 1% aqueous solution.
<b>Melting point/range</b>	Not applicable
<b>Freezing point</b>	No data available
<b>Boiling point (760 mmHg)</b>	No test data available
<b>Flash point</b>	<b>closed cup</b> 65 °C ( 149 °F) <i>Setaflash Closed Cup ASTM D3828</i>
<b>Evaporation Rate (Butyl Acetate = 1)</b>	No test data available
<b>Flammability (solid, gas)</b>	No data available
<b>Lower explosion limit</b>	No test data available
<b>Upper explosion limit</b>	No test data available
<b>Vapor Pressure</b>	Not applicable
<b>Relative Vapor Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	1.15 at 20 °C (68 °F) / 20 °C <i>Digital Density Meter (Oscillating Coil)</i>
<b>Water solubility</b>	Soluble
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No test data available
<b>Decomposition temperature</b>	No test data available
<b>Kinematic Viscosity</b>	No test data available

<b>Explosive properties</b>	No
<b>Oxidizing properties</b>	No significant increase (>5C) in temperature.
<b>Liquid Density</b>	1.15 g/cm <sup>3</sup> at 20 °C (68 °F) <i>Digital density meter</i>
<b>Molecular weight</b>	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Thermally stable at recommended temperatures and pressures.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Active ingredient decomposes at elevated temperatures.

**Incompatible materials:** Avoid contact with: Acids. Halogenated organics. Oxidizers. Avoid contact with metals such as: Zinc. Brass. Aluminum. Copper.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Chlorinated pyridine. Carbon monoxide. Carbon dioxide. Hydrogen chloride. Nitrogen oxides.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### Acute toxicity

#### Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product:

LD50, Rat, 1,521 mg/kg

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

#### Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

LC50, Rat, 4 Hour, dust/mist, > 1.06 mg/l

Maximum attainable concentration.

No deaths occurred at this concentration.

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.  
Repeated contact may cause skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause moderate eye irritation which may be slow to heal.  
May cause moderate corneal injury.  
May cause permanent impairment of vision.

**Sensitization**

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Repeated contact may cause skin irritation with local redness.  
For the active ingredient(s):  
Triclopyr triethylamine salt.  
In animals, effects have been reported on the following organs:  
Kidney.  
For similar active ingredient(s).  
Clopyralid.  
Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

For the minor component(s):  
In animals, effects have been reported on the following organs:  
Respiratory tract.

**Carcinogenicity**

Ethanol when not consumed in an alcoholic beverage is not classifiable as a human carcinogen.  
  
For similar active ingredient(s). Triclopyr. Clopyralid. Did not cause cancer in laboratory animals.

**Teratogenicity**

For similar active ingredient(s). Clopyralid caused birth defects in test animals, but only at greatly exaggerated doses that were severely toxic to the mothers. No birth defects were observed in animals given clopyralid at doses several times greater than those expected during normal exposure. For the active ingredient(s): Triclopyr triethylamine salt. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

For the minor component(s): Has caused birth defects in lab animals at high doses. EDTA and its sodium salts have been reported to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation.

**Reproductive toxicity**

For similar active ingredient(s). Triclopyr. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.



For similar active ingredient(s). Clopyralid. In animal studies, did not interfere with reproduction.

### **Mutagenicity**

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative. For the minor component(s): Animal genetic toxicity studies were negative in some cases and positive in other cases.

### **Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

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## **12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

### **Toxicity**

#### **Triclopyr Triethylamine Salt**

##### **Acute toxicity to fish**

For similar material(s):

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Cyprinus carpio (Carp), 96 Hour, 350 mg/l

LC50, Lepomis macrochirus (Bluegill sunfish), semi-static test, 96 Hour, > 100 mg/l

##### **Acute toxicity to aquatic invertebrates**

EC50, eastern oyster (*Crassostrea virginica*), static test, 48 Hour, 56 - 87 mg/l

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, > 448 mg/l

##### **Acute toxicity to algae/aquatic plants**

ErC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, Growth rate inhibition, 107 mg/l

ErC50, blue-green alga *Anabaena flos-aquae*, Growth inhibition, 72 Hour, > 100 mg/l

EC50, *Lemna gibba*, Growth inhibition, 7 d, > 1,000 mg/l

Based on information for a similar material:

ErC50, *Myriophyllum spicatum*, 14 d, 0.241 mg/l

Based on information for a similar material:

NOEC, *Myriophyllum spicatum*, 14 d, 0.0191 mg/l

##### **Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

Material is moderately toxic to birds on an acute basis (LD50 between 51 and 500 mg/kg).

oral LD50, *Colinus virginianus* (Bobwhite quail), 300mg/kg bodyweight.

dietary LC50, *Colinus virginianus* (Bobwhite quail), 11622mg/kg diet.

contact LD50, *Apis mellifera* (bees), 48 Hour, > 100µg/bee

#### **Clopyralid Triethylamine Salt**

##### **Acute toxicity to fish**

For similar active ingredient(s).

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

For similar active ingredient(s).

LC50, *Oncorhynchus mykiss* (rainbow trout), 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

For similar active ingredient(s).

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**

Based on information for a similar material:

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 33.1 mg/l

Based on information for a similar material:

ErC50, Myriophyllum spicatum, 14 d, > 3 mg/l

Based on information for a similar material:

NOEC, Myriophyllum spicatum, 14 d, 0.0089 mg/l

**Toxicity to Above Ground Organisms**

For similar active ingredient(s).

Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

**Triethylamine**

**Acute toxicity to fish**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Rainbow trout (Oncorhynchus mykiss), flow-through test, 96 Hour, 36 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

LC50, water flea Ceriodaphnia dubia, semi-static test, 48 Hour, 17 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 8 mg/l

NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 1.1 mg/l

**Toxicity to bacteria**

EC10, Pseudomonas putida, Static, 17 Hour, Growth inhibition, 71 mg/l

EC50, Pseudomonas putida, Static, 17 Hour, Growth inhibition, 95 mg/l

**Chronic toxicity to fish**

LOEC, Rainbow trout (Oncorhynchus mykiss), semi-static test, 60 d, mortality, > 100 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, mortality, 7.1 mg/l

LOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, mortality, 14 mg/l

**Ethylenediamine tetraacetic acid**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Fish, 96 Hour, 1,000 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, 113 mg/l, OECD Test Guideline 202 or Equivalent

**Ethanol**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 11,200 - 13,000 mg/l, Method Not Specified.

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 5,414 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

EbC50, Skeletonema costatum (marine diatom), 5 d, Biomass, 10,943 - 11,619 mg/l, OECD Test Guideline 201 or Equivalent

**Balance**

**Acute toxicity to fish**

No relevant data found.

**Persistence and degradability**

**Triclopyr Triethylamine Salt**

**Biodegradability:** For similar active ingredient(s). Triclopyr. Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

For similar active ingredient(s). Triclopyr. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

**Clopyralid Triethylamine Salt**

**Biodegradability:** For similar active ingredient(s). Clopyralid. Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

**Triethylamine**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

10-day Window: Pass

**Biodegradation:** 96 %

**Exposure time:** 21 d

**Method:** OECD Test Guideline 301A or Equivalent

10-day Window: Not applicable

**Biodegradation:** 25 - 34 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 302C or Equivalent

**Theoretical Oxygen Demand:** 3.49 mg/mg

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitization:** OH radicals

**Atmospheric half-life:** 0.116 d

**Method:** Estimated.

**Ethylenediamine tetraacetic acid**

**Biodegradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

10-day Window: Not applicable

**Biodegradation:** 37 %

**Exposure time:** 14 d

**Method:** OECD Test Guideline 302B or Equivalent

10-day Window: Fail

**Biodegradation:** 0 %

**Exposure time:** 30 d

**Method:** OECD Test Guideline 301D or Equivalent

**Theoretical Oxygen Demand:** 1.37 mg/mg

#### **Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitization:** OH radicals

**Atmospheric half-life:** 2.12 Hour

**Method:** Estimated.

#### **Ethanol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** > 70 %

**Exposure time:** 5 d

**Method:** OECD Test Guideline 301D or Equivalent

**Theoretical Oxygen Demand:** 2.08 mg/mg

#### **Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitization:** OH radicals

**Atmospheric half-life:** 2.99 d

**Method:** Estimated.

#### **Balance**

**Biodegradability:** No relevant data found.

#### **Bioaccumulative potential**

##### **Triclopyr Triethylamine Salt**

**Bioaccumulation:** For similar active ingredient(s). Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

##### **Clopyralid Triethylamine Salt**

**Bioaccumulation:** For similar active ingredient(s). Clopyralid. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

##### **Triethylamine**

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

**Partition coefficient: n-octanol/water(log Pow):** 1.45 Measured

**Bioconcentration factor (BCF):** < 4.9 Cyprinus carpio (Carp) 42 d Measured

##### **Ethylenediamine tetraacetic acid**

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

**Partition coefficient: n-octanol/water(log Pow):** -3.86 at 25 °C Estimated.

**Bioconcentration factor (BCF):** 1.1 Fish 28 d Measured

**Ethanol**

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

**Partition coefficient: n-octanol/water(log Pow):** -0.31 Measured

**Balance**

**Bioaccumulation:** No relevant data found.

**Mobility in soil**

**Triclopyr Triethylamine Salt**

For similar active ingredient(s).

Potential for mobility in soil is very high (Koc between 0 and 50).

**Clopyralid Triethylamine Salt**

For similar active ingredient(s).

Clopyralid.

Potential for mobility in soil is very high (Koc between 0 and 50).

**Triethylamine**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** 11 - 146 Estimated.

**Ethylenediamine tetraacetic acid**

Potential for mobility in soil is high (Koc between 50 and 150).

**Partition coefficient (Koc):** 98

**Ethanol**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** 1.0 Estimated.

**Balance**

No relevant data found.

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## 13. DISPOSAL CONSIDERATIONS

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**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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## 14. TRANSPORT INFORMATION

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**DOT**

<b>Proper shipping name</b>	Combustible liquid, n.o.s.(Triethylamine, Ethanol)
<b>UN number</b>	NA 1993
<b>Class</b>	CBL
<b>Packing group</b>	III

**Classification for SEA transport (IMO-IMDG):**

	Not regulated for transport
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

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

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## 15. REGULATORY INFORMATION

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**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

Flammable (gases, aerosols, liquids, or solids)  
 Serious eye damage or eye irritation  
 Acute toxicity (any route of exposure)  
 Respiratory or skin sensitisation  
 Specific target organ toxicity (single or repeated exposure)

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313****Components**

Triclopyr Triethylamine Salt	<b>CASRN</b> 57213-69-1
Triethylamine	121-44-8

**Pennsylvania Right To Know**

The following chemicals are listed because of the additional requirements of Pennsylvania law:

**Components**

Triethylamine	<b>CASRN</b> 121-44-8
Ethylenediamine tetraacetic acid	60-00-4

Ethanol  
1,4-Dioxane

64-17-5  
123-91-1

**California Prop. 65**

WARNING: This product can expose you to chemicals including Sulfuric acid, 1,4-Dioxane, Hexachlorobenzene, Acetaldehyde, Ethylene Oxide, Propylene oxide, which is/are known to the State of California to cause cancer, and Hexachlorobenzene, Ethylene glycol, Ethylene Oxide, 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).

**United States TSCA Inventory (TSCA)**

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

**Federal Insecticide, Fungicide and Rodenticide Act**

EPA Registration Number: 62719-092

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

DANGER

Corrosive

Causes irreversible eye damage

Harmful if swallowed or inhaled

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

**16. OTHER INFORMATION**

**Hazard Rating System**

**NFPA**

Health	Flammability	Instability
3	2	0

**Revision**

Identification Number: 4540 / Issue Date: 10/26/2020 / Version: 8.0

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
SKIN	Absorbed via skin
SKIN, DSEN, BEI	Absorbed via Skin, Skin Sensitizer, Biological Exposure Indice

STEL	Short-term exposure limit
TWA	Time Weighted Average (TWA):

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; AIIIC - 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; 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

### Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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