

## SAFETY DATA SHEET DOW AGROSCIENCES LLC

### Product name: ELEMENT™ 3A Herbicide

Issue Date: 04/27/2015 Print Date: 05/08/2015

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## **1. IDENTIFICATION**

Product name: ELEMENT™ 3A 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 info@dow.com

EMERGENCY TELEPHONE NUMBER

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

## 2. HAZARDS IDENTIFICATION

Hazard classification This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200. Flammable liquids - Category 3 Eye irritation - Category 2A Specific target organ toxicity - single exposure - Category 3

Label elements Hazard pictograms



### Signal word: WARNING!

### Hazards

Flammable liquid and vapour. Causes serious eye irritation. May cause respiratory irritation.

### **Precautionary statements**

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ eye protection/ face protection.

### Response

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician 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.

If eye irritation persists: Get medical advice/ attention.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

### 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

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

This product is a mixture. Component	CASRN	Concentration
Triclopyr Triethylamine Salt	57213-69-1	44.4%
Triethylamine	121-44-8	3.0%

Ethylenediamine tetraacetic acid	60-00-4	2.3%
Ethanol	64-17-5	2.1%
Alkylphenol alkoxylate	69029-39-6	1.0%
Balance	Not available	47.2%

## 4. FIRST AID MEASURES

### 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. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Eye contact:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. 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:** 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.

### 5. FIREFIGHTING MEASURES

**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:** Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. 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. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. 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. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Eliminate ignition sources. 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.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. No smoking in area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. Refer to section 7, Handling, for additional precautionary measures. 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.

**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 Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

### 7. HANDLING AND STORAGE

**Precautions for safe handling:** Keep out of reach of children. Keep away from heat, sparks and flame. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Electrically ground and bond all equipment. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Do not swallow. Wash thoroughly after handling. Use with adequate ventilation. No smoking, open flames or sources of ignition in handling

and storage area. 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. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

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.

**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. Minimize sources of ignition, such as static build-up, heat, spark or flame.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Triclopyr Triethylamine Salt	Dow IHG	TWA	2 mg/m3
	Dow IHG	TWA	SKIN, DSEN, BEI
Triethylamine	ACGIH	TWA	0.5 ppm
	ACGIH	STEL	1 ppm
	ACGIH	TWA	Absorbed via skin
	ACGIH	STEL	Absorbed via skin
	OSHA Z-1	TWA	100 mg/m3 25 ppm
Ethanol	ACGIH	TWA	1,000 ppm
	ACGIH	STEL	1,000 ppm
	OSHA Z-1	TWA	1,900 mg/m3 1,000
			ppm
Alkylphenol alkoxylate	Dow IHG	TWA	2 mg/m3

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 when prolonged or frequently repeated contact could occur. 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: Wear clean, body-covering clothing.

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Pink
Odor	Ammoniacal
Odor Threshold	No test data available
рН	9.5 10% pH Electrode
Melting point/range	Not applicable
Freezing point	No test data available
Boiling point (760 mmHg)	No test data available
Flash point	closed cup 43 °C (109 °F) Setaflash Closed Cup ASTM D3828
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	no data available
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	Not applicable
Relative Density (water = 1)	1.1385 at 20 ℃ (68 年) Digital Density Meter (Oscillating Coil)
Water solubility	Soluble
Partition coefficient: n- octanol/water	no data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Dynamic Viscosity	12.5 mPa.s at 25 °C (77 °F)
Kinematic Viscosity	No test data available
Explosive properties	No Thermal
Oxidizing properties	No
Liquid Density	1.1385 g/cm3 at 20 °C (68 °F) Digital density meter
Molecular weight	no data available
Surface tension	38.5 mN/m at20 °C (68 °F) EC Method A5

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

### **10. STABILITY AND REACTIVITY**

Reactivity: no data available

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: Oxidizers.

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: Hydrogen chloride. Nitrogen oxides.

## 11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear 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, female, 4,100 mg/kg

### Acute dermal toxicity

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

As product: LD50, Rabbit, male and female, > 5,000 mg/kg

### 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).

As product: LC50, Rat, male and female, 4 Hour, Mist, > 5.4 mg/l Maximum attainable concentration. No deaths occurred at this concentration.

### Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

### Serious eye damage/eye irritation

May cause moderate eye irritation. May cause moderate corneal injury.

### Sensitization

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization: No relevant data found.

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

May cause respiratory irritation.

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

For the active ingredient(s): In animals, effects have been reported on the following organs: Kidney.

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

### Carcinogenicity

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

### Teratogenicity

For the active ingredient(s): 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.

### Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

### Aspiration Hazard

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

## 12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

### Toxicity

### 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), 96 Hour, 400 mg/l, OECD Test Guideline 203 or Equivalent

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, Method Not Specified.

LC50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

### Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 107 mg/l, OECD Test Guideline 201 or Equivalent

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

EC50, Lemna gibba, 7 d, Growth inhibition, > 100 mg/l

### 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.

### **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) Sensitizer: 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) Sensitizer: 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) Sensitizer: OH radicals Atmospheric half-life: 2.99 d Method: Estimated.

### Alkylphenol alkoxylate

**Biodegradability:** Biodegradation under aerobic laboratory conditions is below detectable limits (BOD20 or BOD28/ThOD < 2.5%).

Theoretical Oxygen Demand: 2.35 mg/mg

Chemical Oxygen Demand: 1.78 mg/mg

### **Balance**

Biodegradability: No relevant data found.

#### Bioaccumulative potential

**Bioaccumulation:** No data available for this product.

Mobility in soil

### Triclopyr Triethylamine Salt

For similar active ingredient(s).

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.

### Alkylphenol alkoxylate

No data available.

### **Balance**

No relevant data found.

## **13. DISPOSAL CONSIDERATIONS**

**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.

### **14. TRANSPORT INFORMATION**

DOT

Proper shipping name	Combustible liquid, n.o.s.(Triethylamine, Ethanol)
UN number	NA 1993
Class	CBL
Packing group	11

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

Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Triethylamine, Ethanol)
UN number	UN 1993
Class	3
Packing group	11
Marine pollutant	No
Transport in bulk according to Annex I or II of MARPOL 73/78 and the	Consult IMO regulations before transporting ocean bulk

IBC or IGC Code

Classification for AIR transport (IATA/ICAO):			
Proper shipping name	Flammable liquid, n.o.s.(Triethylamine, Ethanol)		
UN number	UN 1993		
Class	3		
Packing group	IN		

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.

## 15. REGULATORY INFORMATION

### **OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Fire Hazard Acute Health Hazard Chronic Health Hazard

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

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

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) WARNING: This product contains a chemical(s) known to the State of California to cause birth defects or other reproductive harm.

## Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Components	CASRN
Triethylamine	121-44-8
Ethylenediamine tetraacetic acid	60-00-4
Ethanol	64-17-5

## Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

### **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: 62719-037

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

## **16. OTHER INFORMATION**

### Hazard Rating System

NFPA

Health	Fire	Reactivity
2	2	0

### Revision

Identification Number: 101199615 / A211 / Issue Date: 04/27/2015 / Version: 7.0 DAS Code: XRM-3724 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

Absorbed via skin	Absorbed via skin
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, DSEN, BEI	Absorbed via Skin, Skin Sensitizer, Biological Exposure Indice
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average

### 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.

# Dow AgroSciences

## **GARLON\* 3A HERBICIDE**

## 1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Garlon\* 3A Herbicide

### **COMPANY IDENTIFICATION:**

Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1189

### 2. HAZARDOUS IDENTIFICATIONS:

### EMERGENCY OVERVIEW

Light purple-pink liquid, ammonia-like odor. May cause eye irritation with corneal injury. May cause skin irritation. Toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: 800-992-5994

### 3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS NUMBER	W/W%
Triclopyr TEA Salt	057213-69-1	44.4
Triethylamine	000121-44-8	3.0
Ethanol	000064-17-5	2.1
Balance		50.5

### 4. FIRST AID:

**EYES:** 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.

SKIN: Wash skin with plenty of water.

**INGESTION:** Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth to an unconscious person.

INHALATION: No emergency medical treatment necessary.

Emergency Phone: 800-992-5994 Dow AgroSciences LLC Indianapolis, IN 46268

Effective Date: 17-Nov-06 Product Code: 38321 MSDS: 004422

**NOTE TO PHYSICIAN**: Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach & lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. If burn is present, treat as any thermal burn, after decontamination. Exposure to amine vapors may cause minor transient edema of the corneal epithelium (glaucopsia) with blurred vision, blue haze & halos around bright objects. Effects disappear in a few hours and temporarily reduce ability to drive vehicles. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

### 5. FIRE FIGHTING MEASURES:

FLASH POINT: 110 °F (43 °C) METHOD USED: TCC FLAMMABLE LIMITS LFL: Not determined

UFL: Not determined

EXTINGUISHING MEDIA: Alcohol foam and CO2.

**FIRE & EXPLOSION HAZARDS**: Toxic, irritating vapors may be formed or given off if product is involved in fire. Although product is water-based, it has a flash point due to the presence of small amounts of ethanol and triethylamine.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, selfcontained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Contain small spills and absorb with an inert material such as clay or dry sand. Report large spills to Dow AgroSciences at 800-992-5994.

### 7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: HANDLING: Keep out of reach of children. Causes irreversible eye damage. Harmful if inhaled or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic skin reaction in some individuals. Avoid contact with eyes, skin, clothing, breathing vapor, or spray mist. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.



## GARLON\* 3A HERBICIDE

STORAGE: Store above 28°F or agitate before use. Store in RESPIRATORY PROTECTION: Atmospheric levels should original container. See product label for handling/storage precautions relative to the end use of this product.

#### **EXPOSURE CONTROLS/PERSONAL PROTECTION:** 8.

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

### **EXPOSURE GUIDELINE(S):**

Ethanol (ethyl alcohol): ACGIH TLV and OSHA PEL are 1000 ppm. ACGIH classification is A4. Triclopyr TEA Salt: Dow AgroSciences Industrial Hygiene Guideline is 2 mg/M<sup>3</sup> as acid equivalent; Skin. Triethylamine: ACGIH TLV is 1 ppm TWA, 3 ppm STEL, Skin. OSHA PEL is 10 ppm TWA, 15 ppm STEL.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

### **RECOMMENDATIONS FOR MANUFACTURING,** COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE PROTECTION: Use chemical goggles. Eye wash fountain should be located in immediate work area. If exposure causes eye discomfort, use a full-face respirator.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur, use chemically protective clothing resistant to this material. Selection of specific items such as face shield, gloves, boots, and apron or full-body suit will depend on operation.

Emergency Phone: 800-992-5994 **Dow AgroSciences LLC** Indianapolis, IN 46268

Effective Date: 17-Nov-06 Product Code: 38321 MSDS: 004422

be maintained below the exposure guideline. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

### 9. PHYSICAL AND CHEMICAL PROPERTIES:

**BOILING POINT: Not determined** VAPOR PRESSURE: Not determined VAPOR DENSITY: Not applicable SOLUBILITY IN WATER: Miscible SPECIFIC GRAVITY: 1.135 (68/68 °F) APPEARANCE: Light purple/pink liquid ODOR: Ammonia-like odor

### **10. STABILITY AND REACTIVITY:**

STABILITY: (CONDITIONS TO AVOID) Avoid sources of ignition if temperature is near or above flash point.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Any oxidizing agent. Consult manufacturer for specific cases.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides and hydrogen chloride may be formed under fire conditions.

HAZARDOUS POLYMERIZATION: Not known to occur.

### **11. TOXICOLOGICAL INFORMATION:**

**POTENTIAL HEALTH EFFECTS:** This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapor of amines may cause swelling of the cornea resulting in visual disturbances such as blurred or hazy vision. Bright lights may appear to be surrounded by halos. Effects may be delayed and typically disappear spontaneously.

# **Dow AgroSciences**

## **GARLON\* 3A HERBICIDE**

**SKIN:** Prolonged contact may cause skin irritation with local redness. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. With the dilute mix, no allergic skin reaction is expected. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LD<sub>50</sub> for skin absorption in rabbits is >5,000 mg/kg.

**INGESTION:** 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. Swallowing may result in gastrointestinal irritation or ulceration. The oral LD<sub>50</sub> for rats is 2,574 mg/kg (male) and 1,847 mg/kg (female).

**INHALATION**: Brief exposure (minutes) is not likely to cause adverse effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Effects have been reported on the following organs: liver and kidney.

**CANCER INFORMATION:** Triclopyr did not cause cancer in laboratory animal studies.

**TERATOLOGY (BIRTH DEFECTS):** Triclopyr did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother. Ethanol has been shown to cause birth defects and toxicity to the fetus in laboratory animal tests. It has also been shown to cause human fetotoxicity and/or birth defects when ingested during pregnancy.

**REPRODUCTIVE EFFECTS**: For triclopyr, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

**MUTAGENICITY**: For triclopyr and ethanol: in-vitro genetic toxicity studies were negative. For triclopyr: animal genetic toxicity studies were negative. For ethanol: animal genetic toxicity studies were negative in some cases and positive in other cases.

Emergency Phone: 800-992-5994 Dow AgroSciences LLC Indianapolis, IN 46268

Effective Date: 17-Nov-06 Product Code: 38321 MSDS: 004422

### **12. ECOLOGICAL INFORMATION:**

### **ENVIRONMENTAL FATE:**

### **MOVEMENT & PARTITIONING:**

Based largely or completely on information for triclopyr. Bioconcentration potential is low (BCF <100 or Log Pow <3).

### **DEGRADATION & PERSISTENCE:**

Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD >40%).

The 20-Day biochemical oxygen demand (BOD20) is 0.30 p/p.

Theoretical oxygen demand (ThOD) is calculated to be 0.75 p/p.

### ECOTOXICOLOGY:

Material is slightly toxic to aquatic organisms on an acute basis ( $LC_{50}$  or  $EC_{50}$  is between 10 and 100 mg/L in most sensitive species).

### **13. DISPOSAL CONSIDERATIONS:**

**DISPOSAL METHOD:** 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 and regulations.

# **Dow AgroSciences**

## **GARLON\* 3A HERBICIDE**

Emergency Phone: 800-992-5994 Dow AgroSciences LLC Indianapolis, IN 46268

Effective Date: 17-Nov-06 Product Code: 38321 MSDS: 004422

14. TRANSPORT INFORMATION:	TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.         STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition parties of the MSDS		
U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:			
For non-bulk shipments by land: This material is not regulated for transport.			
For bulk shipments by land: COMBUSTIBLE LIQUID, N.O.S. (TRIETHYLAMINE, ETHANOL)/COMBUSTIBLE LIQUID/NA1993/PGIII	CHEMICAL NAME         CAS NUMBER         LIST           Ethanol         000064-17-5         NJ1 NJ3 PA1           Triothylaming         000121 44.8         N 11 N 12 PA1 PA2		
For shipments by air or vessel: FLAMMABLE LIQUIDS, N.O.S. (TRIETHYLAMINE, ETHANOL)/3/UN1993/PGIII	NJ1=New Jersey Special Health Hazard Substance (present at > or = to $0.1\%$ ).		
15. REGULATORY INFORMATION:	<ul> <li>NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%). PA1=Pennsylvania Hazardous Substance (present at &gt; or = to 1.0%). PA3=Pennsylvania Environmental Hazardous Substance (present at &gt; or = to 1.0%).</li> <li>OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.</li> <li>NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:</li> </ul>		
<b>NOTICE:</b> The information herein is presented 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 from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.			
U.S. REGULATIONS			
SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:	CATEGORY     HATING       Health     3       Flammability     2       Reactivity     0		
CHEMICAL NAME TriethylamineCAS NUMBER 000121-44-8CONCENTRATION 3.0%SARA HAZARD CATEGORY: This product has been	COMPRESENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA which may require reporting of releases:		
reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet	Chemical NameCAS NumberRQ% in ProductTriethylamine000121-44-850003.0%		

the following categories:

A fire hazard

An immediate health hazard A delayed health hazard



## **GARLON\* 3A HERBICIDE**

**RCRA Categorization Hazardous Code**: Triethylamine = U404

### 16. OTHER INFORMATION:

MSDS STATUS: Revised Section: 2, 3, 11, 12, 13, 15 Reference: DR-0121-6064 Replaces MSDS dated: 11/24/03 Document Code: D03-101-004 Replaces Document Code: D03-101-003 Emergency Phone: 800-992-5994 Dow AgroSciences LLC Indianapolis, IN 46268

Effective Date: 17-Nov-06 Product Code: 38321 MSDS: 004422

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

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# **SAFETY DATA SHEET**



## **NAVITROL®**

SECTION 1. IDENTIFICATION			
Product name	:	Navitrol®	
EPA Registration No.		67690-101	
Relevant identified uses of the sub	ostano	ce or mixture: Herbicide	
Manufacturer or supplier's details			
Company	*	SePRO Corporation 11550 North Meridian Street, Suite 600 Carmel, IN 46032 Phone 317-580-8282/Toll Free 1-800-419-7779 Fax: 317-580-8290	
Emergency telephone number	8	www.sepro.com INFOTRAC 24-hour service 1-800-535-5053	
Recommended use of the chemica	l and	restrictions on use	
Recommended use	:	Water treatment chemical	
SECTION 2. HAZARDS IDENTIFICAT	ION		
GHS Classification			
Corrosive to metals	:	Category 1	
Skin irritation		Category 2	
Serious eye damage	;	Category 1	
Skin sensitisation	ż	Category 1	
GHS label elements			
Hazard pictograms			
Signal word	:	Danger	
Hazard statements	:	H290 May be corrosive to metals. H315 Causes skin irritation. H318 Causes serious eye damage. H317 May cause an allergic skin reaction.	
Precautionary statements	;	Prevention:	



P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ eye protection/ face protection.

P234 Keep only in original container.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

### **Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water.

P332 + P313 If skin irritation occurs: Get medical advice/ attention. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P390 Absorb spillage to prevent material damage.

## Storage:

P406 Store in a corrosion resistant aluminium container with a resistant inner liner.

### Disposal:

P501 Dispose of contents/container in accordance with local regulation.

### Other hazards

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 49.4 %

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

: Mixture

### Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
Edetic acid	60-00-4	5 - 10
Citric acid	77-92-9	5 - 10
[(3,5,6-trichloro-2-pyridyl)oxy]acetic acid, compound with triethylamine (1:1)	57213-69-1	40 - 50
Triethylamine	121-44-8	1 - 3

### **SECTION 4. FIRST AID MEASURES**

If inhaled	1 <u>4</u> 7	IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
In case of skin contact	:	IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
In case of eye contact	:	IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Page 2 of 11		Registered trademark of SePRO Corporation



If swallowed	:	IF SWALLOWED: 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 a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	•	None known.

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SECTION 5. FIREFIGHTING MEASURES	S
Suitable extinguishing media	: Alcohol-resistant foam Dry powder Carbon dioxide (CO2)
Specific hazards during firefighting	<ul> <li>Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back.</li> <li>Closed containers may explode (due to the build up of steam pressure) when exposed to extreme heat.</li> </ul>
Further information	<ul> <li>In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.</li> </ul>

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	<ul> <li>Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.</li> <li>Prevent further leakage or spillage if safe to do so. Evacuate personnel to safe areas.</li> <li>Even in case of a full release, due to the small amount of substances present, it is not expected that exposure limits will be reached.</li> </ul>
	Remove all sources of ignition.

SECTION 7. HANDLING AND STORAGE	
Advice on safe handling	Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapor.
Conditions for safe storage	<ul> <li>Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) closed.</li> <li>Keep from freezing.</li> </ul>



Materials to avoid

: Refer to Section 10, "Incompatible Materials."

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Triethylamine	121-44-8	TWA	0.5 ppm	ACGIH
		STEL	1 ppm	ACGIH
Engineering measures	: Local norma keep a recom	<ul> <li>Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.</li> </ul>		
Personal protective equipme	ent			
Respiratory protection	: Wear exposit A NIO combi A NIO organi be use exposit limit.	a NIOSH approv ure limits are pos SH approved full nation with chem SH approved full c vapor cartridge ed in oxygen defi ure concentration	ed respirator if leve ssible. -face or half-face re- lical goggles. -face air purifying r e. Air purifying respi cient or IDLH atmo ns exceed ten (10)	els above the espirator in espirator with irators should not spheres or if times the published
Hand protection Remarks	: Avoid high c boots	contact with skin oncentrations are and apron in add	. Impervious gloves prolonged or repe lition to gloves.	s When exposure to eated use protective
Eye protection	: Use cl	nemical goggles.		
Skin and body protection	: Imperv	/ious		
Protective measures	: Ensure to the	e that eyewash s workstation local	tations and safety s tion.	showers are close

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	no data available
Odour	13	no data available
Odour Threshold	12	no data available
рН	:	8.5 - 9.0

Sepro

Melting point/freezing point	:	no data available	
Boiling point/boiling range	:	Not applicable	
Flash point	:	> 210 °F / > 99 °C Method: closed cup	
Evaporation rate	3	no data available	
Flammability (solid, gas)	•••	Combustible	
Flammability (liquids)	:	no data available	
Upper explosion limit	:	no data available	
Lower explosion limit	;	no data available	
Vapour pressure	:	no data available	
Relative vapour density	:	no data available	
Relative density	:	1.16 (68 °F / 20 °C)	
Bulk density	;	1,160 kg/m3	
Water solubility	:	soluble in cold water	
Partition coefficient: n-octanol/water	;	Not applicable	
Auto-ignition temperature	ż	no data available	
Decomposition temperature	:	no data available	
Viscosity, dynamic	ţ.	no data available	
Viscosity, kinematic	:	no data available	

## SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	;	Stable under normal conditions.
Conditions to avoid		Heat, flames and sparks. Avoid freezing.
Incompatible materials	:	Strong oxidizing agents Strong acids and strong bases
Hazardous decomposition products	:	Hydrogen chloride Nitrogen oxides (NOx) Phosgene



## SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, skin, eyes, ingestion
Acute toxicity		
Acute oral toxicity	:	LD50 (Rat): Believed to be approximately 3,200 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): Believed to be > 20 mg/lExposure time: 1 h Test atmosphere: dust/mist
		Acute toxicity estimate: > 40 mg/lExposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	LD50 (Rabbit): Believed to be > 2,000 mg/kg
Skin corrosion/irritation		Remarks: May cause mild skin irritation.
Serious eye damage/eye irritation		Remarks: May cause irreversible eye damage
Respiratory or skin sensitization individuals.		Remarks: May cause allergic skin sensitization in some
Carcinogenicity		
IARC		No component 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 component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH		No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
Repeated dose toxicity		
Remarks: Not known or reported to ca	aus	se subchronic or chronic toxicity.

Further information Remarks: no data available

### **SECTION 12. ECOLOGICAL INFORMATION**

Ecotoxicity		
Persistence and degradability		no data available
Bioaccumulative potential		
Components:		
Edetic acid:		
Partition coefficient: n-octanol/water	:	log Pow: -3.340



Citric acid:		
Partition coefficient: n-octanol/wate	r 🤉	log Pow: -1.72 (20 °C) Method: OECD Test Guideline 107
Triethylamine:		
Partition coefficient: n-octanol/wate	r:	log Pow: 1.45 (20 °C) log Pow: -1.23
Mobility in soil	no da	ata available
Other adverse effects		
Ozone-Depletion Potential	:	Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone- Depleting Substances (40 CFR 82, Subpt. A, App A & B)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).

## SECTION 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

Waste from residues	If this product becomes a waste, it will be a nonhazardous waste. As a nonhazardous liquid waste, it should be disposed of in
	accordance with local, state and federal regulations.



### SECTION 14. TRANSPORT INFORMATION

		•		
DOT		•	Not dangerous goods	
	IIN number		Not applicable	
	Broner chinning name	:	Not applicable	
	Transport bazard class	:	Not applicable	
	Packing group	:	Not applicable	
	Facking group	:	Not applicable	
TDG		•	Not dangerous goods	
	UN number		Not applicable	
	Proper shipping name	:	Not applicable	
	Transport bazard class	:	Not applicable	
	Packing group	:	Not applicable	
	Facking group	•	Not applicable	
ΙΑΤΑ			Not dangerous goods	
	UN number	:	Not applicable	
	Proper shipping name		Not applicable	
	Transport hazard class		Not applicable	
	Packing group		Not applicable	
		•		
IMDG			Not dangerous goods	
	UN number	:	Not applicable	
	Proper shipping name	1	Not applicable	
	Transport hazard class		Not applicable	
	Packing group		Not applicable	
	r doking group	:		
ADR		•	Not dangerous goods	
	UN number	:	Not applicable	
	Proper shipping name	1.	Not applicable	
	Transport hazard class		Not applicable	
	Packing group	-	Not applicable	
RID			Not dangerous goods	
	UN number		Not applicable	
	Proper shipping name		Not applicable	
	Transport hazard class	253	Not applicable	
	Packing group	1545	Not applicable	
	Special precautions for user		none	
	Transport in bulk according to	1	Not applicable	
	Anney II of MARPOL 73/78 and the		Not applicable	

## SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals.

EPA Registration number	: 670	690-101
Signal word	: DA	NGER!
Hazard statements	: Ha	rmful if swallowed.
	Ha	rmful if absorbed through skin.
	Co	rrosive - causes irreversible eye damage.
	Pro	olonged or frequently repeated skin contact may cause allergic
	rea	ctions in some individuals.

### EPCRA - Emergency Planning and Community Right-to-Know Act CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Edetic acid	60-00-4	5000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

### SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

### SARA 313

Components	CAS-No.	Concentration
[(3,5,6-trichloro-2-pyridyl)oxy]acetic acid, compound with triethylamine (1:1)	57213-69-1	30 - 50 %
Triethylamine	121-44-8	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):

Components	CAS-No.	Concentration
Triethylamine	121-44-8	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 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Components	CAS-No.	Concentration
Triethylamine	121-44-8	1 - 5 %

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

### **Clean Water Act**



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

Components	CAS-No.	Component RQ (lbs)
Edetic acid	60-00-4	5000
Triethylamine	121-44-8	5000

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

Components	CAS-No.	Concentration
Edetic acid	60-00-4	5 - 10 %
Triethylamine	121-44-8	1 - 5 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

#### US State Regulations

#### Massachusetts Right To Know

Components	CAS-No.
Edetic acid	60-00-4
Triethylamine	121-44-8

#### Pennsylvania Right To Know

Components	CAS-No.
Water	7732-18-5
[(3,5,6-trichloro-2-pyridyl)oxy]acetic acid, compound with triethylamine (1:1)	57213-69-1
polymer dispersant	Not Assigned
Citric acid	77-92-9
Edetic acid	60-00-4

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### Canadian lists

#### NPRI

Components	CAS-No.
Triethylamine	121-44-8

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

### **SECTION 16. OTHER INFORMATION**

#### Full text of other abbreviations

ACGIH : US. ACGIH Threshold Limit Values AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and



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

**Revision Date** 

: 2021.07.27

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Date format

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# SAFETY DATA SHEET

# Renovate<sup>®</sup> 3

## Herbicide

Section 1. Identification		
GHS product identifier	: Renovate® 3 Herbicide	
Recommended use of the chemical and restrictions on use Identified uses	: Herbicide	
Supplier's details	: SePRO Corporation 11550 North Meridian Street Suite 600 Carmel, IN 46032 U.S.A. Tel: 317-580-8282 Toll free: 1-800-419-7779 Fax: 317-580-8290 Monday - Friday, 8am to 5pm <u>E.S.T.</u> <u>www.sepro.com</u>	
Emergency telephone number (with hours of operation)	: INFOTRAC - 24-hour service 1-800-535-5053	
The following recommendations for ex For applications and/or use, consult i	xposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.	

## Section 2. Hazards identification

Hazard classification

GHS classification in accordance with 29CFR 1910.1200. Flammable liquids - Category 3 Eye irritation - Category 2A Specific target organ toxicity - repeated exposure - Category 2

Page 1 of 11

Label elements Hazard pictograms



Signal word:

WARNING!

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Hazards	Flammable liquid and vapor
	Causes serious eye irritation.
	May cause damage to organs (kidney) through prolonged or repeated exposure
Precautionary statem	ents
Prevention	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Wash skin thoroughly after handling. Wear protective gloves/ eye protection/ face protection.
Response IF ON SKIN (or IF IN EYES: In case of fire:	<ul> <li>hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.</li> <li>Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>Get medical attention if you feel unwell.</li> <li>If eye irritation persists: Get medical advice/ attention.</li> <li>Use dry sand, dry chemical or alcohol-resistant foam to extinguish.</li> </ul>
Storage	Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents/ container to an approved waste disposal plant.
Other hazards	No data available

## Section 3. Composition/information on ingredients

This product is a mixture.

Component	CASRN	Concentration	
Triclopyr Triethylamine Salt	57213-69-1	44.05%	
Ethanol •	64-17-5	- 2.10%	
Balance	Not Available	53.85%	

## Section 4. First aid measures

### 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. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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Eye contact:	Hold eyes open and rinse slowly and gently with water for 15-20 minutes. R lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a center or doctor for treatment advice. Suitable emergency eye wash facility immediately available.	emove contact a poison control should be
Ingestion:	Call a poison control center or doctor immediately for treatment advice. Hav glass of water if able to swallow. Do not induce vomiting unless told to do so control center or doctor. Never give anything by mouth to an unconscious pe	e person sip a b by the poison erson.
Most important symptoms		
delayed:	Aside from the information found under Description of first aid measures (ab Indication of immediate medical attention and special treatment needed (be additional important symptoms and effects are described in Section 11: Tox Information.	bove) and low), any icology
Indication of any immediate n	nedical attention and special treatment needed	
Notes to physician:	No specific antidote. Treatment of exposure should be directed at the control and the clinical condition of the patient. Have the Safety Data Sheet, and if a product container or label with you when calling a poison control center or d treatment.	ol of symptoms available, the octor, or going for

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## Section 5. Fire-fighting measures

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. Straight or direct water streams may not be effective to extinguish fire. 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:	Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. 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. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. 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. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Eliminate ignition sources. 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



SDS

Renovate® 3

environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this 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.

## Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Evacuate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Only Trained and properly protected personnel must be involved in clean-up operations. Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. Refer to section 7, Handling, for additional precautionary measures. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. 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.
Methods and materials for containment and cleaning up	: Contain spilled material if possible. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact SePRO Corporation for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

## Section 7. Handling and storage

Precautions for safe handling: Keep away from heat, sparks and flame. Keep out of reach of children. Do not swallow. No smoking, open flames or sources of ignition in handling and storage area. Do not get in eyes. Avoid contact with skin and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Containers, even those that have been emptied, can container vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Electrically ground and bond all equipment. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flashback may occur. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. 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. Minimize sources of ignition, such as static build-up, heat, spark or flame.
# Section 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/m <sup>3</sup>
	Dow IHG	TWA	SKIN, DSEN, BEI
Ethanol	ACGIH	STEL	1,000 ppm
	OSHA Z-1	TWA	1,900 mg/m <sup>3</sup> 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. 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: Skin protection	Use chemical goggles.	
Hand protection:	Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. 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:	Wear clean, body-covering clothing.	

**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.

# Section 9. Physical and chemical properties

Appearance

**Physical State** Liquid Color Pink Odor Ammoniacal **Odor Threshold** No test data available pН 9.5 10% pH Electrode Not applicable Melting point/range Freezing point No test data available Boiling point (760 mmHg) No test data available Closed cup 43 °C (109 °F) Setaflash Closed Cup ASTM D3828 Flash point No data available Evaporation Rate (Butyl Acetate =1) No data available Flammability (solid, gas) No data available Lower explosion limit No data available Upper lower explosion limit Vapor pressure No data available No data available Relative Vapor Density (air = 1) Relative Density (water = 1) 1.1385 at 20 °C (68 °F) Digital Density Meter (Oscillating Coil) Water solubility Soluble Partition coefficient: n-octanol/water No data available Auto-ignition temperature No data available **Decomposition temperature** No data available **Dynamic Viscosity** 12.5 mPa.s at 25 °C (77 °F) **Kinematic Viscosity** No data available **Explosive properties** No Thermal **Oxidizing properties** No significant increase (>5C) in temperature. Liquid Density 1.1385 g/ml at 20 °C (68 °F) Digital density meter No data available Molecular weight

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

# Section 10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of 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: Oxidizers		
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: Hydrogen chloride. Nitrogen oxides.		

# Section 11. Toxicological information

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, female, 4100 mo/kg			
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Acute dermal toxicity	Prolonged skin contact is unlikely to result in absorption of harmful amounts. As product: LD50, Rabbit, male and female, > 5,000 mg/kg			
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). As product: LC50, Rat, male and female, 4 Hour, Mist, > 5.4 mg/l Maximum attainable concentration. No deaths occurred at this concentration.			
Skin corrosion/irritation	Brief contact is essentially nonirritating to skin.			
Serious eye damage/ eye irritation	May cause moderate eye irritation. May cause moderate corneal injury.			
Sensitization	Did not demonstrate the potential for contact allergy in mice. 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)	For the active ingredient(s): In animals, effects have been reported on the following organs: Kidney.			
Carcinogenicity	For similar active ingredient(s). Triclopyr. Did not cause cancer in laboratory animals.			
Teratogenicity	For the active ingredient(s): 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.			
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.			
Mutagenicity	In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.			
Aspiration Hazard	Based on physical properties, not likely to be an aspiration hazard			

# Section 12. Ecological information

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

Toxicity	
Acute toxicity to fish	LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 400 mg/l, OECD Test Guideline 203 or Equivalent.
	LC50, Lepomis macrochirus (Bluegill sunfish), semi-static test, 96 Hour, > 100 mg/l
Acute toxicity to aquatic Invertebrates	EC50, eastern oyster ( <i>Crassostrea virginica</i> ), static test, 48 Hour, 56 - 87 mg/l, Method Not Specified.
	LC50, <i>Daphnia magna</i> (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent.
Acute toxicity to algae/	
aquatic plants	Based on information for a similar material: 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.
	ErC50, <i>Pseudokirchneriella subcapitata</i> (green algae), 72hr, Growth rate inhibition, 107 mg/l, OECD Test Guideline 201 or Equivalent
	ErC50, blue-green alga Anabaena flos-aquae, 72 Hour, Growth inhibition, > 100 mg/l
	EC50, <i>Lemna gibba</i> , 7 d, Growth inhibition, > 100 mg/l
	Based on information for a similar material ErC50, <i>Myriophyllum spicaturn</i> , 14 day, 0.241 mg/l
	Based on information for a similar material NOEC, <i>Myriophyllum spicaturn</i> , 14 day, 0.0191 mg/l
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.
Ethanol	
Biodegradability:	Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. 10-day Window: Pass
Biodegradation:	> 70%
Exposure time: Method:	5 d OECD Test Guideline 301D or Equivalent
Theoretical Oxygen	
Demand:	2.08 mg/mg
	Page 8 of 11

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Pho	otodegradation	Test Type: Half-life (indirect photolysis) Sensitizer: OH radicals Atmospheric half-life: 2.99 d Method: Estimated.
<u>Balance</u> I	Biodegradability:	No relevant data found.
Bioaccu	mulative potential	
<u>Triclopy</u>	r Triethylamine Salt Bioaccumulation:	For similar active ingredient(s). Bioconcentration potential is low (BCF < 100 or Log Pow <3).
<u>Ethanol</u> I	Bioaccumulation: Partition Coefficient:	Bioaccumulation is unlikely. Bioconcentration potential is low (BCF < 100 or Log Pow <3). n-octanol/water(log Pow) = -0.31 Measured.
<u>Balance</u> I	Bioaccumulation:	No relevant data found
Mobility	in soil	
<u>Triclopy</u>	r Triethylamine Salt	For similar active ingredient(s). Potential for mobility in soil is very high (Koc between 0 and 50).
<u>Ethanol</u>		Potential for mobility in soil is very high (Koc between 0 and 50). Partition coefficient (Koc): 1.0 Estimated.
Balance		No relevant data found.

# Section 13. Disposal considerations

**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.

# Section 14. Transport information

DOT

Proper shipping nameCombustible liquid, n.o.s. (Triclopyr Triethylamine Salt, Ethanol)UN NumberNA 1993ClassCBLPacking GroupIII



Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Triclopyr Triethylamine Salt, Ethanol)
UN number	UN 1993
Class	3
Packing group	
Marine pollutant	Triclopyr Triethylamine Salt
Transport in bulk	Consult IMO regulations before transporting ocean bulk
according to Annex I or	II
of MARPOL 73/78 and the	he
IBC or IGC Code	

#### Classification for AIR transport (IATA/ICAU):

Proper shipping name	Flammable liquid, n.o.s.( Triclopyr Triethylamine Salt, Ethanol)
UN number	UN 1993
Class	3
Packing group	HI
UN number Class Packing group	UN 1993 3 III

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

# Section 15. Regulatory information

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

Flammable (gasses, aerosols, liquids, or solids) Serious eye damage or eye irritation

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	CASRN
Triclopyr Triethylamine Salt	57213-69-1

#### Pennsylvania Right-To-Know

The following chemicals are listed because of the additional requirements of Pennsylvania Law.

Components	CASRN
Ethanol	64-17-5

**California Proposition 65** WARNING: This product can expose you to chemicals including Propylene oxide, Ethylene Oxide, which is/are known to the State of California to cause cancer, and 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.

**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, Fundicide, and Rodenticide Act (FIFRA) requirements.



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Federal Insecticide, Fungicide and Rodenticide Act

#### EPA Registration Number: 62719-37-67690

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

# Section 16. Other information

# Hazard Rating System NFPA

Health:	3	Fire:	2	Instability:	0
Legend					
ACGIH			USA.	ACGIH Thresh	old Limit Values (TLV)
DOW I	HG		Dow	Industrial Hygi	ene Guideline
OSHA Z-1 USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contamin					
SKIN, E	SEN,	BEI	Abso	rbed via Skin, S	ikin Sensitizer, Biological Exposure Indice
STEL			Short	-term exposur	e limit
TWA			Time	Weighted Ave	rage
				-	-

### **History**

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Date of issue mm/dd/yyyy: 07/17/2018
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#### Notice to reader

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

# **SAFETY DATA SHEET**



# **Renovate® OTF Aquatic Herbicide**

Section 1. Identif	ication					
GHS product identifier	: Renovate <sup>®</sup> OTF Aquatic Herbicide					
Other means of identification	ns of : Not available. on					
EPA Registration No. :	: 67690-42					
Relevant Identified uses of	the substance or mixture					
Aquatic herbicide.						
Supplier's details	: SePRO Corporation 11550 North Meridian Street Suite 600 Carmel, IN 46032 U.S.A. Tel: 317-580-8282 Toll free: 1-800-419-7779 Fax: 317-580-8290 Monday - Friday, 8am to 5pm E.S.T. www.sepro.com					
Emergency telephone number (with hours of operation)	: INFOTRAC - 24-hour service 1-800-535-5053					
The following recommendations for For applications and/or use, co	exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. Isult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.					
Section 2. Hazard	Is identification					
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).					
Classification of the substance or mixture	: SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A					
GHS label elements						
Hazard pictograms	: Exclamation mark					
Signal word : Warning						
Hazard statements	: Causes serious eye irritation.					
Precautionary statements						
Prevention	: Wear eye or face protection. Wash hands thoroughly after handling.					
Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses present and easy to do. Continue rinsing. If eye irritation persists: Get medical attent						
Storage	: Not applicable.					
Disposal	: Not applicable.					

Hazards not otherwise : None known.

classified



# Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Other means of

: Not available.

identification

: Not availabl

# **CAS number/other identifiers**

**CAS number** 

: Not applicable.

Ingredient name	%	CAS number
Proprietary ingredient 1	60 - 70	-
Triclopyr Acetic Acid, Triethylamine Salt	14	57213-69-1
Proprietary ingredient 2	0.1 - 0.9	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

# Section 4. First aid measures

Description of necess	ary first aid measures
Eye contact	<ul> <li>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.</li> </ul>
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: Flush contaminated skin with plenty of water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects. acute and delayed

Potential acute health effects	
Eye contact	Causes serious eye irritation.
Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	No known significant effects or critical hazards.
Ingestion	Irritating to mouth, throat and stomach.

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Renovate® OTF Aquatic Herbicide

# Section 4. First aid measures

# **Over-exposure signs/symptoms**

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness		
Inhalation	: No known significant effects or critical hazards.		
Skin contact	: No known significant effects or critical hazards.		
Ingestion : No known significant effects or critical hazards.			
Indication of immediate me	<u>fical attention and special treatment needed. if necessary</u>		
Notes to physician	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.		
Specific treatments	: No specific treatment.		
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.		

See toxicological information (Section 11)

# Section 5. Fire-fighting measures

Extinguishing media Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.	
Unsuitable extinguishing media	: None known.	
Specific hazards arising from the chemical	: No specific fire or explosion hazard.	
Hazardous thermal decomposition products	<ul> <li>Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds</li> </ul>	
Special protective actions for fire-fighters	: No special measures are required.	
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.	

# Section 6. Accidental release measures

<u>Personal precautions, protective equipment and emergency procedures</u>				
For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.			
For emergency responders	: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".			

# Section 6. Accidental release measures

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

# Methods and materials for containment and cleaning up

Spill

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: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

### Precautions for safe handling

Protective measures	: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

<u>Control parameters</u> <u>Occupational exposure lin</u> None.	<u>mits</u>	51	22	1	2
Appropriate engineering controls	:	Good general ventilat contaminants.	tion should be suffi	icient to control worker of	exposure to airborne
Environmental exposure controls	:	Emissions from ventil they comply with the	lation or work proc requirements of en	ess equipment should t ivironmental protection	be checked to ensure legislation.
Individual protection meas	ures				
Hygiene measures	:	Wash hands, forearm eating, smoking and a Appropriate technique Wash contaminated of showers are close to	ns and face thoroug using the lavatory a es should be used clothing before reu the workstation loc	ghly after handling cher and at the end of the wo to remove potentially co sing. Ensure that eyew cation.	nical products, before orking period. ontaminated clothing. ash stations and safety
Eye/face protection	:	Safety eyewear comp assessment indicates gases or dusts. If con the assessment indic	olying with an appro s this is necessary ntact is possible, th ates a higher degra	oved standard should be to avoid exposure to liq ne following protection s ee of protection: chemi	e used when a risk uid splashes, mists, hould be worn, unless cal splash goggles.



# Section 8. Exposure controls/personal protection

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Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	<ul> <li>Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.</li> </ul>
Respiratory protection	: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

# Section 9. Physical and chemical properties

<u>Appearance</u>		
Physical state	:	Solid. [Granular solid.]
Color	:	Creamy grayish-tan.
Odor	:	Ammoniacal.
Odor threshold	:	Not available.
рН	:	7.8 [Conc. (% w/w): 1%]
Melting point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Not applicable.
Burning time	:	Not available.
Burning rate	:	Not available.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	0.7
Solubility	:	Not available.
Solubility in water	:	Not available.
Partition coefficient: n- octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
SADT	:	Not available.
Viscosity	:	Not available.

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# Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.				
Chemical stability	: The product is stable.				
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.				
Conditions to avoid	: No specific data.				
Incompatible materials	: Reactive or incompatible with the following materials: None known.				
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.				

# Section 11. Toxicological information

# Information on toxicological effects

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Renovate <sup>®</sup> OTF Aquatic Herbicide	LC50 Inhalation Vapor	Rat	>2 mg/L	4 hours
	LD50 Dermał	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Renovate <sup>®</sup> OTF Aquatic Herbicide	Eyes - Moderate irritant Skin - Non irritant	Rat Rat	-	- -	- -

# **Sensitization**

Product/ingredient name	Route of exposure	Species	Result
Renovate <sup>®</sup> OTF Aquatic Herbicide	skin	Rat	Not sensitizing

### **Mutagenicity**

There is no data available.

# **Carcinogenicity**

There is no data available.

#### **Reproductive toxicity**

There is no data available.

### **Teratogenicity**

There is no data available.

# Specific target organ toxicity (single exposure)

There is no data available.

### Specific target organ toxicity (repeated exposure)

There is no data available.

### **Aspiration hazard**

There is no data available.



**Renovate® OTF Aquatic Herbicide** 

# Section 11. Toxicological information

Information on the likely routes of exposure	:	Routes of entry anticipated: Oral, Dermal, Inhalation.
Potential acute health effects	3	
Eye contact	:	Causes serious eye irritation.
Inhalation	:	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	<ul> <li>Adverse symptoms may include the following: pain or irritation watering redness</li> </ul>
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

### Delayed and immediate effects and also chronic effects from short and long term exposure

<u>Short term exposure</u>	
Potential immediate effects	: No known significant effects or critical hazards.
Potential delayed effects	: No known significant effects or critical hazards.
Long term exposure	
Potential immediate effects	: No known significant effects or critical hazards.
Potential delayed effects	: No known significant effects or critical hazards.
Potential chronic health eff	ects
General	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

### Numerical measures of toxicity

Acute toxicity estimates

There is no data available.



# Section 12. Ecological information

### <u>Toxicity</u>

Product/ingredient name	Result	Species	Exposure
Triclopyr Acetic Acid, Triethylamine Salt	Acute EC50 15.3 mg/L Fresh water	Algae - Navicula pelliculosa	4 days
	Acute EC50 775 mg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 120 mg/L Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 80.7 mg/L	Daphnia - Daphnia magna	21 days
	Chronic NOEC 104 mg/L	Fish - Pimephales prometas	28 days
Proprietary ingredient 2	Acute EC50 4400+ ppb Fresh water	Daphnia - Daphnia magna	48 hours
· · · ·	Acute LC50 >10 mg/L Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 167 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours

### Persistence and degradability

There is no data available.

# **Bioaccumulative potential**

There is no data available.

<u>Mobility in soil</u>	
Soil/water partition	: Not available.

Other adverse effects : No known significant effects or critical hazards.

# Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

# Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-

\*Registered trademark of Dow Corporation.



# Section 14. Transport information

Environmental hazard <del>s</del>	No.	No.	No.
Additional information	-	-	-

### Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not available. to Annex II of MARPOL 73/78 and the IBC Code

# Section 15. Regulatory information

		-							
U.S. Federal regulations	:	TSCA 8	(a) CDR Exer	npt/Parti	al exemption:	Not determin	ed		-
		United S	States invent	ory (TSC	A 8b): Not det	ermined.			
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)	:	Not liste	d						
Clean Air Act Section 602 Class I Substances	:	Not liste	ď						
Clean Air Act Section 602 Class II Substances	:	Not liste	d						
DEA List I Chemicals (Precursor Chemicals)	:	Not liste	d						
DEA List II Chemicals (Essential Chemicals)	:	Not liste	d						
SARA 302/304									
Composition/information	on	ingredier	nts						
No products were found.									
SARA 304 RQ	:	Not appl	icable.		3				
SARA 311/312									
Classification	:	Immedia	ite (acute) he	alth haza	rd				
Composition/information	on	ingredier	<u>nts</u>						
Name			%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health	Delayed (chronic) health	

**Proprietary ingredient 2** 

Triclopyr Acetic Acid, Triethylamine Salt

14

0.1 - 0.9

No.

No.

Yes.

No.

hazard

Yes.

Yes.

Yes.

No.

hazard

No.

No.

# Section 15. Regulatory information

	CAS number	%	
Form R - Reporting requirements	Triclopyr Acetic Acid, Triethylamine Salt	57213-69-1	14
Supplier notification	Triclopyr Acetic Acid, Triethylamine Salt	57213-69-1	14

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

Massachusetts	: The following components are listed: Proprietary ingredient 1	
New York	: None of the components are listed.	
New Jersey	: The following components are listed: Proprietary ingredient 1; Triclopyr Acetic Acid, Triethylamine Salt	
Pennsylvania	: The following components are listed: Proprietary ingredient 1	
<u>California Prop. 65</u>		
No products were found.		
International regulations		
International lists	<ul> <li>Australia inventory (AICS): All components are listed or exempted.</li> <li>China inventory (IECSC): Not determined.</li> <li>Japan inventory: All components are listed or exempted.</li> <li>Korea inventory: All components are listed or exempted.</li> <li>Malaysia Inventory (EHS Register): Not determined.</li> <li>New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempte Philippines inventory (PICCS): Not determined.</li> <li>Taiwan inventory (CSNN): Not determined.</li> </ul>	d.
Chemical Weapons Convention List Schedule I Chemicals	: Not listed	
Chemical Weapons Convention List Schedule II Chemicals	: Not listed	
Chemical Weapons Convention List Schedule III Chemicals	: Not listed	

# Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health : 1 \* Flammability : 0 Physical hazards :

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

0

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

### Health : 1 Flammability : 0 Instability :

0

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Sepho

# Section 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

# <u>History</u>

Date of issue mm/dd/yyyy	: 07/15/2015
Date of previous issue	: 04/15/2013
Version	: 4
Revised Section(s)	: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.
Prepared by	: KMK Regulatory Services Inc.
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = International Air Transport Association IBC = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

#### Notice to reader

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



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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION			
Product Name: EPA Reg. No.: Synonyms: Product Type:	<b>TAHOE<sup>®</sup> 3A Herk</b> 228-520 Triclopyr Triethylamine Salt; (3, triemylamine salt; Triclopyr TEA Herbicide	5,6-Trichloro-2-F	Pyridinyl) oxyacetic acid,
Company Name:	Nufarm Americas Inc. 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527		
Telephone Numbers:	For Chemical Emergency, Spi Call CHEMTREC Day or Night For Medical Emergencies Onl	ill, Leak, Fire, E :  1-800-424-93( y, Call 1-877-32	xposure, or Accident, 00 /5-1840
Date of Issue: Sections Revised:	December 15, 2009 1, 2, 9, 11 and 14	Supersedes:	December 4, 2007

#### **Emergency Overview:**

Appearance and Odor: Clear light brown colored liquid.

**Warning Statements:** Danger. Keep out of reach of children. Corrosive. Causes irreversible eye damage. Harmful if absorbed through skin or swallowed. Do not get in eyes or on skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

2. HAZARDS IDENTIFICATION

#### Potential Health Effects:

Likely Routes of Exposure: Inhalation, eye and skin contact.

Eye Contact: Causes irreversible eye damage. Vapors and mist can cause irritation.

Skin Contact: Slightly toxic and moderately irritating based on toxicity studies. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Ingestion: Moderately toxic based on toxicity studies.

Inhalation: Low inhalation toxicity.

Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

#### Potential Environmental Effects:

Treatment of aquatic weeds can result in oxygen depletion due to decomposition of dead plants. Oxygen loss, if severe, can cause fish suffocation.

See Section 12: ECOLOGICAL INFORMATION for more information.

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**COMPONENT** Triclopyr, triethylamine salt Other Ingredients **CAS NO.** 57213-69-1 % BY WEIGHT 44.4 55.6



### MATERIAL SAFETY DATA SHEET

#### 4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

**If Swallowed:** 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. Do not give anything by mouth to an unconscious person.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

#### 5. FIRE FIGHTING MEASURES

Flash Point: >210°F (>99°C) Pensky-Martens Autoignition Temperature: Not determined

Flammability Limits: Not determined

**Extinguishing Media:** Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Unusual Fire and Explosion Hazards:** If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as hydrogen chloride, nitrogen oxides and phosgene.

#### National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health:3Flammability:1Reactivity:0Hazards Scale:0 = Minimal1 = Slight2 = Moderate3 = Serious4 = Severe

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

**Methods for Containment:** Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

**Methods for Cleanup and Disposal:** Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

**Other Information:** Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

#### 7. HANDLING AND STORAGE

#### <u>Handling:</u>

Do not get in eyes or on skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Users should wash hands before eating, drinking, chewing gum,

# MATERIAL SAFETY DATA SHEET

using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### Storage:

Store above 28°F or agitate before use. Do not contaminate water, food or feed by storage or disposal.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

#### Personal Protective Equipment:

**Eye/Face Protection:** To avoid contact with eyes, wear face shield, goggles or safety glasses with front, brow and temple protection. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.

**Respiratory Protection:** Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

#### **Exposure Guidelines:**

	OS	HA	AC	GIH	
Component	TWA	STEL	TWA	STEL	Unit
Triclopyr TEA	NE	NE	NE	NE	

NE = Not Established

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Clear light brown colored liquid.

Boiling Point:	Not determined	Solubility in Water:	Soluble
Evaporation Rate:	Not determined	Vapor Density:	Not determined
Freezing Point: pH:	Not determined 8 – 9	Vapor Pressure: Viscosity:	Not determined 10.735 cst @ 20°C

**Note:** Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

#### 10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions. Conditions to Avoid: Excessive heat. Do not store near heat or flame. Incompatible Materials: Strong oxidizing agents: bases and acids. Hazardous Decomposition Products: Under fire conditions may produce gases such as hydrogen chloride, nitrogen oxides and phosgene.

Hazardous Reactions: Hazardous polymerization will not occur.

### **11. TOXICOLOGICAL INFORMATION**

#### Toxicological Data:

Data from laboratory studies on this product are summarized below: Oral: Rat LD<sub>50</sub>: 1,036 mg/kg (female) (estimated based on mortalities for doses tested) Dermal: Rat LD<sub>50</sub>: >5,000 mg/kg Inhalation: Rat 4-hr LC<sub>50</sub>: >2.04 mg/L Eye Irritation: Rabbit: Severely irritating/corrosive Skin Irritation: Rabbit: Moderately irritating Skin Sensitization: Guinea Pigs: Sensitizing

Subchronic (Target Organ) Effects: Excessive exposure to Triclopyr may affect heart, kidneys and liver.

Carcinogenicity / Chronic Health Effects: Triclopyr did not cause cancer in laboratory studies. Reproductive Toxicity: For triclopyr in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Developmental Toxicity: Triclopyr did not cause birth defects in laboratory animals.

Genotoxicity: For triclopyr, in-vitro and animal mutagenicity studies were negative.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

#### 12. ECOLOGICAL INFORMATION

#### Aquatic Toxicity:

Aquatic toxicity data for the salt and acid forms are presented. The acid data should be considered in an overview of aquatic toxicity because the salt rapidly dissociates to the acid in water. However, triclopyr acid can also reform salts with naturally occurring counter-ions such as calcium and magnesium:

Test/Species	Data on Triclopyr TEA	Data on Triclopyr Acid
96-hour LC <sub>50</sub> Bluegill	893 ppm	148 ppm
96-hour LC <sub>50</sub> Trout	613 ppm	117 ppm
48-hour EC <sub>50</sub> Daphnia	1,496 ppm	132.9 ppm

#### Avian Toxicity:

Triclopyr TEA has been shown to be practically non-toxic to avian species following subacute dietary exposure.

Bobwhite Quail 8-day Dietary LC<sub>50</sub>:>10,000 ppm Mallard Duck 8-day Dietary LC<sub>50</sub>: >10,000 ppm Mallard Duck Oral LD<sub>50</sub>: 2,055

2,055 mg/kg

#### Environmental Fate:

In laboratory and field studies, Triclopyr TEA rapidly dissociates to parent acid in the environment. Triclopyr is moderately persistent and mobile. In soil, the predominant degradation pathway is microbial and the average half-life is 30 days. Half-lives tend to be shorter in warm, moist soils with a high organic content. The predominant degradation pathway for triclopyr in water is photodegradation and the average half-life is one day.

#### 13. DISPOSAL CONSIDERATIONS

#### Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

#### Container Handling and Disposal:

**Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities by burning. If burned stay out of smoke.

Metal Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

#### 14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

### <u>DOT</u>

Non Regulated

# IMDG

Non Regulated

### <u>IATA</u>

Non Regulated

#### 15. REGULATORY INFORMATION

#### U.S. Federal Regulations:

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

#### SARA Hazard Notification/Reporting:

#### Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): Immediate and Delayed

#### Section 313 Toxic Chemical(s):

Triclopyr, Trimethylammonium Salt (CAS No. 57213-69-1), 44.4% by weight in product

#### Reportable Quantity (RQ) under U.S. CERCLA: None

### RCRA Waste Code:

None

#### <u>State Information:</u> Other state regulations may apply. Check individual state requirements.

#### California Proposition 65: Not Listed

### 16. OTHER INFORMATION

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

Tahoe is a registered trademark of Nufarm Americas Inc.

# SAFETY DATA SHEET

EMERGENCY CALL: 1-800-424-9300 (CHEMTREC)

# 1. IDENTIFICATION

PRODUCT NAME: Alligare Triclopyr 3 DESCRIPTION: A liquid herbicide. EPA Reg. No.: 81927-13

COMPANY IDENTIFICATION: Alligare, LLC 13 N. 8<sup>th</sup> Street Opelika, AL 36801

### 2. HAZARD IDENTIFICATION

### DANGER

Causes serious eye damage (H318) Harmful if swallowed or inhaled (H302+H332) May cause an allergic skin reaction (H317) May be harmful in contact with skin (H313) Combustible liquid (H227)

#### HAZARD CLASSIFICATION

Health Hazard	Category
Eye Damage / Irritation	1
Acute Toxicity, Oral	4
Acute Toxicity, Inhalation	4
Acute Toxicity, Dermal	5
Sensitization, Skin	1B



Other Hazards Flammable Liquids Category 4

#### PRECAUTIONARY STATEMENTS

Wear eye protection and protective gloves. Avoid breathing fumes or spray. Use only outdoors or in a well-ventilated area. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. (P280+P261+P271+P264+P270+P272)

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 control center or doctor. (P305+P351+P338+P310)

IF SWALLOWED: Call a poison control center or doctor if you feel unwell. Rinse mouth. (P301+P312+P330)

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor if you feel unwell.

IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse. (P302+P352+P333+P313+P362+P364)

Keep away from flames and hot surfaces. No smoking. (P210)

IN CASE OF FIRE: Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish. (P370+P378) Store in a well-ventilated place and keep cool. (P403 + P235)

Dispose of contents / container in accordance with local regulations. Refer to the product label for specific disposal instructions. (P501)

3. COMPOSITION / INFORMATION ON INGREDIENTS				
Common Name	Chemical Name	CAS #	Composition	
Triclopyr	3,5,6-trichloro-2-pyridinyloxyacetic acid, triethylamine salt	57213-69-1	44.4%	
Triethylamine	N,N-Diethylethanamine	121-44-8	16.25%	
Ethylenediaminetetra- acetic Acid (EDTA)	N,N'-1,2-Ethanediylbis-[N-(carboxymethyl)glycine] trisodium salt	60-00-4	2.5%	



### 4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor or poison control center.

IF SWALLOWED: Immediately call a doctor or poison control center. Rinse mouth.

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a doctor or poison control center if you feel unwell.

**IF ON SKIN OR CLOTHING:** Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take of contaminated clothing and wash it before reuse.

#### 5. FIREFIGHTING MEASURES

Fire and Explosion Hazards: May decompose in fire due to thermal decomposition, releasing irritating and toxic gases.

Means of Extinction: Use water spray, CO2, foam or dry chemical.

**Fire Fighting Instructions:** Evacuate area and fight fire upwind from a safe distance to avoid possible hazardous fumes and decomposition products. Dike runoff and do not allow runoff to enter sewers, storm drains or waterways. Foam and dry chemical extinguishing systems are preferred to prevent environmental damage from excessive water runoff.

Firefighting Equipment: Self-contained breathing apparatus with full face piece and full bunker gear.

Hazardous Combustion Products: Hydrogen chloride, oxides of nitrogen, chlorinated pyridine, phosgene.

NFPA Ratings: Health: 3 / Flammability: 2 / Reactivity: 0

#### 6. ACCIDENTAL RELEASE MEASURES

Clean up spills immediately observing the precautions in Section 8 of this SDS. Isolate the hazard area and keep unnecessary and unprotected personnel from entering. Prevent material from contaminating soil or from entering sewage and drainage systems and bodies of water.

Small Spills: Absorb small spills on sand, vermiculite of other inert absorbent. Place contaminated material in appropriate container for disposal.

Large Spills: Dike large spills using absorbent or impervious materials such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, scrape up and place in an appropriate container for disposal. After removal, flush contaminated area thoroughly with water, observing all environmental regulations. Recover wash liquid with additional absorbent and place in container for disposal.

#### 7. HANDLING AND STORAGE

**Handling:** Do not allow to come into contact with skin, eyes and clothing. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Storage:** Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a secured storage area.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash station and a safety shower.

**Protective Clothing:** Long-sleeved shirt, long pants and shoes plus socks, protective eyewear, and chemical resistant gloves (≥ 14 mils) such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber.

**General:** Wash thoroughly with soap and water after handling. Discard clothing and other absorbent materials that have been heavily contaminated with this product; do not reuse them. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light pink liquid Odor: Slight ammonia-like pH: 8.5 – 9.0 Specific Gravity: 1.14 g/ml @ 68°F Flashpoint (Closed Cup): 43.3°C (110°F) Flammable Limits (LFL-UFL): No data. Solubility in Water: Soluble

### **10. STABILITY AND REACTIVITY**

CONDITIONS TO AVOID: Temperatures above 105°F (40°C) and below 40°F (6°C)

CHEMICAL STABILITY: Stable under normal use and transportation situations.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Heat may cause decomposition generating hydrogen chloride, oxides of nitrogen, chlorinated pyridine and / or phosgene.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Strong acids and oxidizing agents.

HAZARDOUS REACTIONS: None known.

HAZARDOUS POLYMERIZATION: Will not occur.

#### 11. TOXICOLOGICAL INFORMATION

ORAL TOXICITY (rat LD<sub>50</sub>): > 1,500 mg/kg DERMAL TOXICITY (rat LD<sub>50</sub>): > 2,000 mg/kg INHALATION TOXICITY (rat LC<sub>50</sub>): > 2.5 mg/L (4-hour) EYE IRRITATION: Rabbit – Corrosive SKIN IRRITATION: Rabbit – Slightly irritating SKIN SENSITIZATION: Guinea Pig – Potential sensitizer after repeated exposure to concentrate CARCINOGENICITY: EPA: Not Listed ACGIH: Not Listed IARC: Not Listed IARC: Not Listed MUTAGENIC TOXICITY: Little evidence of mutagenic effects during *in vivo* or *in vitro* studies.

**REPRODUCTIVE TOXICITY:** No evidence in animal studies.

#### **12. ECOLOGICAL INFORMATION**

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely affected from drift and run-off. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water. Under certain conditions, oxygen depletion or loss due may result due to decomposition of dead plants, which may contribute to fish suffocation.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

#### **13. DISPOSAL CONSIDERATIONS**

#### Do not contaminate water, food or feed by disposal.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Refer to the product label for specific container handling instructions.

#### 14. TRANSPORT INFORMATION

#### US DOT (shipped by land):

Containers < 119 gal (< 882 lbs.): Containers > 119 gal (> 882 lbs.):	Not regulated by DOT.
DOT Shipping Name:	NA1993, Combustible Liquid, N.O.S. (Contains triethylamine), PG III
DOT Emergency Response Guide:	128

#### IMDG / IATA (shipped by vessel or air):

Proper Shipping Name: Marine Pollutant: UN1993, Flammable Liquid, N.O.S. (Contains triethylamine), 3, PG III No

#### **15. REGULATORY INFORMATION**

#### FIFRA -

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. The following is the hazard information as required on the pesticide label:

#### **PRECAUTIONARY STATEMENTS**

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER:** Corrosive. Causes irreversible eye damage. Harmful if absorbed through skin or swallowed. Do not get in eyes or on clothing.

See inside label booklet for additional Precautionary Statements and Directions for Use including Storage and Disposal instructions.

#### ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

For aquatic uses, under certain conditions, treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants, which may contribute to fish suffocation. This loss can cause fish suffocation. Therefore, to minimize this hazard, do not treat more than one-third to one-half of the water area in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State agency for fish and game before applying to public water to determine if a permit is needed.

### 15. REGULATORY INFORMATION (CONT.)

All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA.

SARA Title III – Section 302 Extremely Hazardous Substances Not listed

SARA Title III – Section 311/312 Hazard Categories Immediate, Delayed, Fire

SARA Title III – Section 312 Threshold Planning Quantity N/A

SARA Title III – Section 313 Reportable Ingredients Triethylamine (CAS No. 121-44-8): 16.25%

#### CERCLA -

Triethylamine (CAS No. 121-44-8): 16.25%, RQ: 5,000 ETDA (CAS No. 60-00-4): 2.5%, RQ: 5,000

#### CALIFORNIA PROP 65 STATUS -

This product does not contain any chemical known to the state of California to cause cancer or reproductive toxicity.

#### CANADA -

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

#### 16. OTHER INFORMATION

THIS INFORMATION IN THIS SDS IS BASED ON DATA AVAILABLE AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT ALLIGARE, LLC TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS. JUDGMENTS AS TO THE SUITABILITY OF THE INFORMATION HEREIN FOR THE INDIVIDUAL'S OWN USE OR PURPOSES IS NECESSARILY THE INDIVIDUAL'S OWN RESPONSIBILITY. ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF SUCH INFORMATION, ALLIGARE, LLC EXTENDS NO WARRANTIES, MAKES NO REPRESENTATIONS, AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF SUCH INFORMATION FOR APPLICATION TO THE INDIVIDUAL'S PURPOSES OR THE CONSEQUENCES OF ITS USE.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

SDS Version: 2.2

Effective Date: 08/08/2017

# SAFETY DATA SHEET

# SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: ALBAUGH, LLC Ankeny, IA 50021 EMERGENCY TELEPHONE NUMBERS:

(800) 424-9300 (CHEMTREC, transportation and spills)

PRODUCT NAME CHEMICAL NAME PRODUCT USE PRODUCT CODE : TRICLOPYR 3A

: Triclopyr triethylamine salt

: Herbicide

: EPA Reg. No 42750-127

### **SECTION 2 - HAZARDS IDENTIFICATION SUMMARY**

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Light pinkish amber clear liquid

**HEALTH HAZARDS:** DANGER! Corrosive, serious eye damage. Potential skin sensitizer from exposure to concentrate.

**PHYSICAL HAZARDS:** Combustible liquid. May release toxic fumes if burned.

**ENVIRONMENTAL HAZARDS:** Highly toxic to certain terrestrial plant species. Mobile in soil and potential groundwater contaminant.



# **SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS**

COMPONENT	PERCENTAGE	CAS NUMBER
Triclopyr Triethylamine salt	44.4	57213-69-1
Ethylenediaminetetraacetic acid (EDTA)	< 5.0	64-02-8
Ethanol	< 5.0	64-17-5

# SECTION 4 - FIRST AID MEASURES

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** 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. Do not give anything by mouth to an unconscious person.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF INHALED:** Move person to fresh air, if person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

# SAFETY DATA SHEET

# SECTION 5 - FIRE FIGHTING MEASURES

National Fire Protection Rating (NFPA)					
HEALTH			00	3	
FLAMMABILI	TY			2	
REACTIVITY				0	
4=Severe	3=Serious	2=M	oderate	1=Slight	0=Minimal

FLASHPOINT: 141°F (61°C)

EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, or water spray when fires involve this material.

FIRE AND EXPLOSION HAZARD: May decompose in fire due to thermal decomposition, releasing toxic gases.

FIRE FIGHTING INSTRUCTIONS: Evacuate area and fight fire upwind from a safe distance to avoid possible hazardous fumes and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff. Minimize use of water to prevent environmental contamination

FIRE FIGHTING EQUIPMENT: Self-contained breathing apparatus with full facepiece and protective clothing.

# SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

SMALL SPILL: Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.

LARGE SPILL: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. Clean contaminated area thoroughly with water. Pick up wash liquid with absorbent and place in a disposable container.

Minimize use of water to prevent environmental contamination

# SECTION 7 - HANDLING AND STORAGE

**KEEP OUT OF REACH OF CHILDREN!** 

Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

HANDLING: Use only in a well-ventilated area.

STORAGE: Store in original container with lid tightly closed. Keep away from food, feed and drinking water. Combustible liquid, store in a well ventilated, dry place away from heat and other sources of ignition.

# SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

# EXPOSURE LIMITS (8 hour TWA, ppm):

COMPONENT	OSHA PEL	ACIGH TLV
Triclopyr TEA salt	Not listed	Not listed
EDTA	Not listed	Not listed
Ethanol	1,000	1,000

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to minimize exposure to airborne contaminants. Local mechanical exhaust ventilation may be required. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PERSONAL PROTECTIVE EQUIPMENT: Applicators and other handlers must wear:

EYE PROTECTION - Protective eyewear such as safety goggles or full face shield.

CLOTHING - Long-sleeved shirt and long pants, Shoes plus socks.

GLOVES - Chemical resistant gloves such as butyl rubber, nitrile rubber, neoprene rubber, or viton.

RESPIRATOR - When handling in enclosed areas where exposure limits may be exceeded, use a respirator approved for pesticides.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

# **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Light pinkish amber clear liquid
Odor:	Light alkaline odor
pH:	8.29 - 9.29
Melting Point:	Not applicable
Boiling Point:	No data
Flash Point:	141°F (61°C)
Evaporation Rate:	No data
Flammability:	Not flammable
Flammability Limits:	Not applicable
Vapor Pressure:	0.2 mPa (25°C) (Triclopyr)
Vapor Density:	Not applicable
Density:	1.14 – 1.18 g/ml (9.51 – 9.85 lb/gl)*
Solubility:	No data
Partition Coefficient:	log P <sub>ow</sub> = 0.42 (pH5), -0.45 (pH7), -0.96 (pH9) (Triclopyr)
Auto-Ignition Temperature:	No data
<b>Decomposition Temperature:</b>	No data
Viscosity:	21.331 cSt (20°C); 8.679 cSt (40°C)

\*Listed density is an approximate value and does not necessarily represent that of a specific batch.

# SAFETY DATA SHEET

### SECTION 10 - STABILITY AND REACTIVITY

PRODUCT REACTIVITY: None known.

CHEMICAL STABILITY: Stable, however may decompose if heated.

HAZARDOUS REACTION/POLYMERIZATION: Product will not undergo polymerization.

CONDITIONS TO AVOID: Avoid temperatures above (105°F, 40°C) and below 40°F (6°C).

**INCOMPATIBLE MATERIALS:** Strong acids and oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: May decompose to hydrogen chloride, oxides of nitrogen and phosgene when burning.

### SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity values from a similar but not identical formulation.

Oral LD <sub>50</sub> (rat) - 1,000 mg/kg	
Dermal LD <sub>50</sub> (rat) - > 5,000 mg/Kg	
Inhalation $LC_{50}$ (rat) -> 2.0 mg/L	
Eye Irritation (rabbit) - Severely irritating with corneal injury possible.	
Skin Irritation (rabbit) - Slight irritant	
Sensitization (guinea pig) - Potential sensitizer from prolonged or repeated expos	ure

#### CARCINOGEN STATUS:

OSHA	-	- Not listed
NTP	-	- Not listed
IARC	-	- Not listed

TERATOGENICITY: Evidence of toxicity only at maternally toxic doses.

MUTAGENICITY: No evidence of mutagenicity.

# **SECTION 12 - ECOLOGICAL INFORMATION**

**ENVIRONMENTAL SUMMARY:** Do not contaminate water when disposing of equipment washwaters. Under certain conditions, treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants, which may contribute to fish suffocation. This loss can cause fish suffocation. Therefore, to minimize this hazard, do not treat more than one-third to one-half of the water area in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State agency for fish and game before applying to public water to determine if a permit is needed.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**FATE:** Triclopyr TEA salt rapidly disassociates to the parent acid. Triclopyr acid is slightly persistent with a soil half life of 2 to 6 weeks depending on soil type and weather conditions. Triclopyr acid is water soluble and mobile in soil.

FISH TOXICITY: (triclopyr TEA)96 hour LC50, Rainbow trout –400 ppm96 hour LC50, Bluegill –600 ppm
### **TRICLOPYR 3A**

SAFETY DATA SHEET

> 10,000 ppm

> 10,000 ppm

AVIAN TOXICITY: (triclopyr TEA) Dietary LC<sub>50</sub>, Bobwhite quail – Dietary LC<sub>50</sub>, Mallard duck –

BEE TOXICITY: (triclopyr TEA) - > 100 ug/bee

# **SECTION 13 - DISPOSAL CONSIDERATIONS**

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE WASTE:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate, is a violation of federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER HANDLING:** Non-refillable containers: Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. (non-refillable <5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Refer to product label to determine if container is refillable and for complete cleaning and disposal instructions.

# **SECTION 14 - TRANSPORT INFORMATION**

#### DOT SHIPPING DESCRIPTION:

Containers < 119 gallons -Containers > 119 gallons -

DOT HAZARD CLASS: IDENTIFICATION NUMBER: DOT PACKING GROUP: Not regulated by DOT NA1993, Combustible Liquid, N.O.S. (triethylamine, ethanol), PG III

Combustible liquid (> 119 gallons) NA1993 PG III

# **SECTION 15 - REGULATORY INFORMATION**

CERCLA REPORTABLE QUANTITY: 5,000 # (EDTA) (< 3% of product formulation)

### SARA TITLE III STATUS:

311/312 Hazard Categories – 313 Toxic Chemicals – Immediate & Delayed Health Hazard, Fire Hazard None known

**CALIFORNIA PROP 65:** 

Not listed

**TSCA:** 

This product is exempted from TSCA because it is solely for FIFRA regulated use.

### **SECTION 16 - OTHER INFORMATION**

HMIS HAZARD RATINGS	HEALTH			3		
	FLAMMABILITY			2		
	PHYSICAL HAZARD			0		
	4=Severe	3=Serious	2=M	oderate	1=Slight	0=Minimal

**DISCLAIMER:** The information presented herein is based on available data from reliable sources and is correct to the best of Albaugh's knowledge. Albaugh makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

- **REVISED DATE:** November, 2014
- REFERENCE: Update for GHS compliance