

# SAFETY DATA SHEET

## DOW AGROSCIENCES LLC

**Product name:** PASTUREGARD™ High Load Herbicide

**Issue Date:** 05/14/2015

**Print Date:** 05/18/2015

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.

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## 1. IDENTIFICATION

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**Product name:** PASTUREGARD™ High Load 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](mailto:info@dow.com)

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 800-992-5994

**Local Emergency Contact:** 352-323-3500

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## 2. HAZARDS IDENTIFICATION

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### Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Acute toxicity - Category 4 - Oral

Skin irritation - Category 2

Skin sensitisation - Sub-category 1B

### Label elements

#### Hazard pictograms



Signal word: **WARNING!**

#### Hazards

Harmful if swallowed.  
Causes skin irritation.  
May cause an allergic skin reaction.

#### Precautionary statements

##### Prevention

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
Wash 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.  
Wear protective gloves.

##### Response

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
IF ON SKIN: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice/ attention.  
Take off contaminated clothing and wash before reuse.

##### Disposal

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

#### Other hazards

no data available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

| Component                       | CASRN         | Concentration         |
|---------------------------------|---------------|-----------------------|
| Triclopyr-2-butoxyethyl ester   | 64700-56-7    | 45.07%                |
| Fluroxypyr 1-methylheptyl ester | 81406-37-3    | 15.56%                |
| 2-Ethylhexanol                  | 104-76-7      | >= 1.2 - <= 2.4 %     |
| Balance                         | Not available | >= 36.97 - <= 38.17 % |

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### 4. FIRST AID MEASURES

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#### Description of first aid measures

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

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

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

**Eye contact:** 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 available in work area.

**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.

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## **5. FIREFIGHTING MEASURES**

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**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Unsuitable extinguishing media:** no data available

**Special hazards arising from the substance or mixture**

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

**Unusual Fire and Explosion Hazards:** Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if

this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. 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). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. 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.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling. 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.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Control parameters

Exposure limits are listed below, if they exist.

| Component                       | Regulation | Type of listing | Value/Notation       |
|---------------------------------|------------|-----------------|----------------------|
| Triclopyr-2-butoxyethyl ester   | Dow IHG    | TWA             | 2 mg/m <sup>3</sup>  |
|                                 | Dow IHG    | TWA             | SKIN, DSEN, BEI      |
| Fluroxypyr 1-methylheptyl ester | Dow IHG    | TWA             | 10 mg/m <sup>3</sup> |

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 safety glasses (with side shields).

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

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

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

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

|   |  |
|---|--|
| <b>Physical state</b>                       | Liquid.  |
| <b>Color</b>                                | Yellow   |
| <b>Odor</b>                                 | Sweet  |
| <b>Odor Threshold</b>                       | No test data available   |
| <b>pH</b>                                   | 4.91 1% pH Electrode   |
| <b>Melting point/range</b>                  | Not applicable   |
| <b>Freezing point</b>                       | No test data available   |
| <b>Boiling point (760 mmHg)</b>             | No test data available   |
| <b>Flash point</b>                          | <b>closed cup</b> > 100 °C (> 212 °F) <i>Pensky-Martens Closed Cup ASTM D 93</i> |
| <b>Evaporation Rate (Butyl Acetate = 1)</b> | No test data available   |
| <b>Flammability (solid, gas)</b>            | Not Applicable   |
| <b>Lower explosion limit</b>                | No test data available   |
| <b>Upper explosion limit</b>                | No test data available   |

|   |  |
|---|--|
| <b>Vapor Pressure</b>                         | No test data available   |
| <b>Relative Vapor Density (air = 1)</b>       | No test data available   |
| <b>Relative Density (water = 1)</b>           | No test data available   |
| <b>Water solubility</b>                       | emulsifiable   |
| <b>Partition coefficient: n-octanol/water</b> | no data available  |
| <b>Auto-ignition temperature</b>              | No test data available   |
| <b>Decomposition temperature</b>              | No test data available   |
| <b>Kinematic Viscosity</b>                    | 15.1 mm <sup>2</sup> /s at 39.9 °C (103.8 °F)                        |
| <b>Explosive properties</b>                   | no data available  |
| <b>Oxidizing properties</b>                   | no data available  |
| <b>Liquid Density</b>                         | 1.11 g/cm <sup>3</sup> at 20 °C (68 °F) <i>Digital density meter</i> |
| <b>Molecular weight</b>                       | no data available  |

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

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** no data available

**Chemical stability:** Stable under recommended storage conditions. See Storage, Section 7.

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

**Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

**Incompatible materials:** Avoid contact with oxidizing materials. Avoid contact with: Acids. Bases.

**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. Hydrogen fluoride. Nitrogen oxides. Toxic gases are released during decomposition.

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## 11. TOXICOLOGICAL INFORMATION

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

### Acute toxicity

#### Acute oral toxicity

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

As product:

LD50, Rat, female, 1,760 mg/kg OECD 401 or equivalent

**Acute dermal toxicity**

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

As product:

LD50, Rabbit, > 5,000 mg/kg OECD Test Guideline 402

**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, 4 Hour, Liquid aerosol., > 5.14 mg/l OECD Test Guideline 403

**Skin corrosion/irritation**

Brief contact may cause moderate skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause slight eye irritation.

May cause slight temporary corneal injury.

**Sensitization**

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

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

Product test data not available.

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

For the active ingredient(s):

Triclopyr butoxyethyl ester.

In animals, effects have been reported on the following organs:

Kidney.

Liver.

For the minor component(s):

In animals, effects have been reported on the following organs:

Blood.

Kidney.

Liver.

Spleen.

**Carcinogenicity**

For similar active ingredient(s). Triclopyr. Fluroxypyr-meptyl. 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 been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in laboratory animals only at doses toxic to the mother.

**Reproductive toxicity**

For similar active ingredient(s). Triclopyr. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. For the active ingredient(s): fluroxypyr methylheptyl ester In animal studies, did not interfere with reproduction.

**Mutagenicity**

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on available information, aspiration hazard could not be determined.

**COMPONENTS INFLUENCING TOXICOLOGY:****Triclopyr-2-butoxyethyl ester****Specific Target Organ Systemic Toxicity (Single Exposure)**

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

**2-Ethylhexanol****Specific Target Organ Systemic Toxicity (Single Exposure)**

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

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**12. ECOLOGICAL INFORMATION**

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

**Toxicity****Triclopyr-2-butoxyethyl ester****Acute toxicity to fish**

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

LC50, Lepomis macrochirus (Bluegill sunfish), flow-through test, 96 Hour, 0.36 mg/l

LC50, Fish., 96 Hour, 0.310 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 2.9 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, > 3.00 mg/l, OECD Test Guideline 201

EbC50, diatom Navicula sp., 120 Hour, Biomass, 0.193 mg/l

EbC50, Lemna gibba, Biomass, 2.2 mg/l

**Chronic toxicity to fish**

NOEC, Rainbow trout (Oncorhynchus mykiss), 0.0263 mg/l



**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 1.6 mg/l

LOEC, Daphnia magna (Water flea), 21 d, number of offspring, 5.1 mg/l

MATC (Maximum Acceptable Toxicant Level), Daphnia magna (Water flea), 21 d, number of offspring, 2.9 mg/l

**Toxicity to Above Ground Organisms**

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

Material is slightly toxic to birds on a dietary basis (LC50 between 1001 and 5000 ppm).

oral LD50, Colinus virginianus (Bobwhite quail), 21 d, 735 mg/kgmg/kg bodyweight.

dietary LC50, Colinus virginianus (Bobwhite quail), 8 d, 1,890 mg/kgmg/kg bodyweight.

oral LD50, Apis mellifera (bees), 48 Hour, mortality, > 110µg/bee

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

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 14 d, > 1,042 mg/kg

LC50, Eisenia fetida (earthworms), 14 d, > 521 mg/kg

**Fluroxypyr 1-methylheptyl ester****Acute toxicity to fish**

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

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, > 0.225 mg/l, OECD Test Guideline 203 or Equivalent

Toxicity to aquatic species occurs at concentrations above material's water solubility.

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, > 0.183 mg/l, OECD Test Guideline 202 or Equivalent

Toxicity to aquatic species occurs at concentrations above material's water solubility.

**Acute toxicity to algae/aquatic plants**

ErC50, diatom Navicula sp., static test, 72 Hour, 0.24 mg/l, OECD Test Guideline 201 or Equivalent

EbC50, alga Scenedesmus sp., 72 Hour, > 0.47 mg/l

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 1.410 mg/l

EC50, Lemna gibba, 14 d, > 2.31 mg/l

**Chronic toxicity to fish**

NOEC, Rainbow trout (Oncorhynchus mykiss), 0.32 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

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

oral LD50, Colinus virginianus (Bobwhite quail), 5 d, > 2000mg/kg bodyweight.

dietary LC50, Colinus virginianus (Bobwhite quail), > 5000mg/kg diet.

oral LD50, Apis mellifera (bees), 48 Hour, > 100micrograms/bee

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

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), > 1,000 mg/kg

**2-Ethylhexanol****Acute toxicity to fish**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).  
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 32 - 37 mg/l

#### Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, 35.2 mg/l, OECD Test Guideline 202  
EC50, Daphnia magna (Water flea), 48 Hour, 39 mg/l, OECD Test Guideline 202 or Equivalent

#### Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 11.5 mg/l, OECD Test Guideline 201

#### Toxicity to bacteria

EC50, Bacteria, 16 Hour, 256 - 320 mg/l

### Balance

#### Acute toxicity to fish

No relevant data found.

### Persistence and degradability

#### Triclopyr-2-butoxyethyl ester

**Biodegradability:** Chemical degradation (hydrolysis) is expected in the environment. Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

**Biodegradation:** 18 %

**Exposure time:** 28 d

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

**Theoretical Oxygen Demand:** 1.39 mg/mg

#### Biological oxygen demand (BOD)

| Incubation Time | BOD         |
|-----------------|-------------|
|                 | 0.004 mg/mg |

#### Stability in Water (1/2-life)

Hydrolysis, half-life, 8.7 d, pH 7, Half-life Temperature 25 °C

#### Photodegradation

**Atmospheric half-life:** 5.6 Hour

**Method:** Estimated.

#### Fluroxypyr 1-methylheptyl ester

**Biodegradability:** Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

**Biodegradation:** 32 %

**Exposure time:** 28 d

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

**Theoretical Oxygen Demand:** 2.2 mg/mg

**Stability in Water (1/2-life)**

, half-life, 454 d

**2-Ethylhexanol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Pass

**Biodegradation:** 68 %

**Exposure time:** 17 d

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

10-day Window: Not applicable

**Biodegradation:** > 95 %

**Exposure time:** 5 d

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

**Theoretical Oxygen Demand:** 2.95 mg/mg

**Chemical Oxygen Demand:** 2.70 mg/mg

**Biological oxygen demand (BOD)**

| Incubation Time | BOD       |
|-----------------|-----------|
| 5 d             | 26 - 70 % |
| 10 d            | 75 - 81 % |
| 20 d            | 86 - 87 % |

**Photodegradation**

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

**Sensitizer:** OH radicals

**Atmospheric half-life:** 9.7 Hour

**Method:** Estimated.

**Balance**

**Biodegradability:** No relevant data found.

**Bioaccumulative potential**

**Triclopyr-2-butoxyethyl ester**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 4.62

**Bioconcentration factor (BCF):** 110 Fish.

**Fluroxypyr 1-methylheptyl ester**

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

**Partition coefficient: n-octanol/water(log Pow):** 5.04 Measured

**Bioconcentration factor (BCF):** 26 Oncorhynchus mykiss (rainbow trout) Measured

**2-Ethylhexanol**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.1 Measured

#### **Balance**

**Bioaccumulation:** No relevant data found.

#### **Mobility in soil**

##### **Triclopyr-2-butoxyethyl ester**

Calculation of meaningful sorption data was not possible due to very rapid degradation in the soil.

For the degradation product:

Triclopyr.

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

##### **Fluroxypyr 1-methylheptyl ester**

Expected to be relatively immobile in soil (Koc > 5000).

**Partition coefficient(Koc):** 6200 - 43000

##### **2-Ethylhexanol**

Potential for mobility in soil is low (Koc between 500 and 2000).

**Partition coefficient(Koc):** 800 Estimated.

#### **Balance**

No relevant data found.

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### **13. DISPOSAL CONSIDERATIONS**

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

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### **14. TRANSPORT INFORMATION**

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#### **DOT**

Not regulated for transport

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

|                             |  |
|-----------------------------|--|
| <b>Proper shipping name</b> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Triclopyr, Fluroxypyr) |
| <b>UN number</b>            | UN 3082  |
| <b>Class</b>                | 9  |
| <b>Packing group</b>        | III  |

|   |  |
|---|--|
| <b>Marine pollutant</b>   | Triclopyr, Fluroxypyr                                  |
| <b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b> | Consult IMO regulations before transporting ocean bulk |

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

|                             |  |
|-----------------------------|--|
| <b>Proper shipping name</b> | Environmentally hazardous substance, liquid, n.o.s.(Triclopyr, Fluroxypyr) |
| <b>UN number</b>            | UN 3082  |
| <b>Class</b>                | 9  |
| <b>Packing group</b>        | 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.

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## 15. REGULATORY INFORMATION

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**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**

Acute Health Hazard  
Chronic Health Hazard

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**Pennsylvania (Worker and Community Right-To-Know Act): 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.

| <b>Components</b>             | <b>CASRN</b> |
|-------------------------------|--------------|
| 2-Ethylhexanol                | 104-76-7     |
| Triclopyr-2-butoxyethyl ester | 64700-56-7   |

**Pennsylvania (Worker and Community Right-To-Know Act): 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: 62719-637

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

**CAUTION**

Causes moderate eye irritation

Harmful if swallowed

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

**16. OTHER INFORMATION****Hazard Rating System****NFPA**

| Health | Fire | Reactivity |
|--------|------|------------|
| 2      | 1    | 0          |

**Revision**

Identification Number: 101206633 / A211 / Issue Date: 05/14/2015 / Version: 2.0

DAS Code: GF-2691

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

**Legend**

|                 |  |
|-----------------|--|
| Dow IHG         | Dow Industrial Hygiene Guideline                               |
| SKIN, DSEN, BEI | Absorbed via Skin, Skin Sensitizer, Biological Exposure Indice |
| TWA             | Time Weighted Average (TWA):                                   |

**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.

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