

# SAFETY DATA SHEET

DOW AGROSCIENCES LIMITED

Safety Data Sheet according to Reg. (EU) No 453/2010

**Product name:** PASTOR™ PRO Herbicide

**Revision Date:** 13.08.2014

**Version:** 2.1

**Print Date:** 13.08.2014

DOW AGROSCIENCES LIMITED 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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## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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### 1.1 Product identifiers

**Product name:** PASTOR™ PRO Herbicide

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** Plant Protection Product

### 1.3 Details of the supplier of the safety data sheet

#### COMPANY IDENTIFICATION

DOW AGROSCIENCES LIMITED

LATCHMORE COURT

BRAND STREET

HITCHIN

England

SG5 1NH

UNITED KINGDOM

**Customer Information Number:**

[SDSQuestion@dow.com](mailto:SDSQuestion@dow.com)

### 1.4 EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 0031 115 694 982

**Local Emergency Contact:** 00 31 115 69 4982

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## SECTION 2. HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EU) 1272/2008 :

Flammable liquids - Category 3 - H226

Serious eye damage/eye irritation - Category 2 - H319

Skin sensitisation - Category 1B - H317

Specific target organ toxicity - single exposure - Category 3 - Respiratory tract irritant. - H335

Specific target organ toxicity - single exposure - Category 3 - Narcotic effects. - H336

Aspiration toxicity - Category 1 - H304

Acute aquatic toxicity - Category 1 - H400

Chronic aquatic toxicity - Category 1 - H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC:**

R10

Harmful - R65

Irritant - R37/38

R43

R67

Dangerous for the environment - R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

**2.2 Label elements**

**Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]:**

**Hazard pictograms**



**Signal word: DANGER**

**Hazard statements**

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H410 Very toxic to aquatic life with long lasting effects.

**Supplemental Hazard Statements**

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P331 Do NOT induce vomiting.

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

**Contains** Triclopyr-2-butoxyethyl ester; Hydrocarbons, C9, aromatics; 3-(Isodecyloxy)-1-

propanamine; kerosine - unspecified

**2.3 Other hazards**

no data available

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

Chemical nature: Mixture

**3.2 Mixture**

This product is a mixture.

<b>CASRN / EC-No. / Index-No.</b>	<b>REACH Registration Number</b>	<b>Concentration</b>	<b>Component</b>	<b>Classification: REGULATION (EC) No 1272/2008</b>
<b>CASRN</b> 64700-56-7 <b>EC-No.</b> 265-024-8 <b>Index-No.</b> -	-	14.0%	Triclopyr-2- butoxyethyl ester	Acute Tox. - 4 - H302 Skin Sens. - 1B - H317 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
<b>CASRN</b> 81406-37-3 <b>EC-No.</b> 279-752-9 <b>Index-No.</b> 607-272-00-5	-	10.9%	fluroxypyr-meptyl (ISO)	Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
<b>CASRN</b> 1702-17-6 <b>EC-No.</b> 216-935-4 <b>Index-No.</b> 607-231-00-1	-	5.0%	clopyralid (ISO)	Eye Dam. - 1 - H318
<b>CASRN</b> Not available <b>EC-No.</b> 918-668-5 <b>Index-No.</b> -	01-2119455851-35	> 50.0 - < 60.0 %	Hydrocarbons, C9, aromatics	Flam. Liq. - 3 - H226 STOT SE - 3 - H336 STOT SE - 3 - H335 Asp. Tox. - 1 - H304 Aquatic Chronic - 2 - H411
<b>CASRN</b> 34590-94-8 <b>EC-No.</b> 252-104-2 <b>Index-No.</b> -	01-2119450011-60	< 10.0 %	Dipropylene glycol monomethyl ether	Not classified

<b>CASRN</b> 57-55-6 <b>EC-No.</b> 200-338-0 <b>Index-No.</b> -	01-2119456809-23	< 5.0 %	Propylene glycol	Not classified
<b>CASRN</b> 30113-45-2 <b>EC-No.</b> 250-056-7 <b>Index-No.</b> -	-	< 5.0 %	3-(Isodecyloxy)-1-propanamine	Acute Tox. - 4 - H302 Skin Corr. - 1B - H314 Eye Dam. - 1 - H318 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
<b>CASRN</b> 68953-96-8 <b>EC-No.</b> 273-234-6 <b>Index-No.</b> -	-	< 5.0 %	Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	Skin Irrit. - 2 - H315 Eye Dam. - 1 - H318
<b>CASRN</b> 64742-94-5 <b>EC-No.</b> 265-198-5 <b>Index-No.</b> 649-424-00-3	01-2119451097-39	< 5.0 %	kerosine - unspecified	Asp. Tox. - 1 - H304 Aquatic Chronic - 2 - H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

<b>CASRN / EC-No. / Index-No.</b>	<b>Concentration</b>	<b>Component</b>	<b>Classification: 67/548/EEC</b>
<b>CASRN</b> 64700-56-7 <b>EC-No.</b> 265-024-8 <b>Index-No.</b> -	14.0%	Triclopyr-2-butoxyethyl ester	Xn - R22 R43 N - R50/53
<b>CASRN</b> 81406-37-3 <b>EC-No.</b> 279-752-9 <b>Index-No.</b> 607-272-00-5	10.9%	fluroxypyr-meptyl (ISO)	N - R50 - R53
<b>CASRN</b> 1702-17-6 <b>EC-No.</b> 216-935-4 <b>Index-No.</b> 607-231-00-1	5.0%	clopyralid (ISO)	Xi - R41

<b>CASRN</b> Not available <b>EC-No.</b> 918-668-5 <b>Index-No.</b> -	> 50.0 - < 60.0 %	Hydrocarbons, C9, aromatics	R10 Xn - R65 Xi - R37 R66 R67 N - R51/53
<b>CASRN</b> 34590-94-8 <b>EC-No.</b> 252-104-2 <b>Index-No.</b> -	< 10.0 %	Dipropylene glycol monomethyl ether	Not classified
<b>CASRN</b> 57-55-6 <b>EC-No.</b> 200-338-0 <b>Index-No.</b> -	< 5.0 %	Propylene glycol	Not classified
<b>CASRN</b> 30113-45-2 <b>EC-No.</b> 250-056-7 <b>Index-No.</b> -	< 5.0 %	3-(Isodecyloxy)-1-propanamine	C - R34 Xn - R22 N - R50/53
<b>CASRN</b> 68953-96-8 <b>EC-No.</b> 273-234-6 <b>Index-No.</b> -	< 5.0 %	Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	Xi - R38 - R41
<b>CASRN</b> 64742-94-5 <b>EC-No.</b> 265-198-5 <b>Index-No.</b> 649-424-00-3	< 5.0 %	kerosine - unspecified	Xn - R65 R66 N - R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

## SECTION 4. FIRST AID MEASURES

### 4.1 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. If breathing is difficult, oxygen should be administered by qualified personnel.

**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:** Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

**4.2 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.

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

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a 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. Skin contact may aggravate preexisting dermatitis.

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## **SECTION 5. FIREFIGHTING MEASURES**

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### **5.1 Extinguishing media**

**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water fog or fine spray. Dry chemical fire extinguishers. Foam.

**Unsuitable extinguishing media:** no data available

### **5.2 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: Carbon monoxide. Carbon dioxide. Carbon dioxide. During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.

**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. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur.

### **5.3 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. 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. Eliminate ignition sources. 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. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

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**6.1 Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. 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. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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

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

**6.4 Reference to other sections:** References to other sections, if applicable, have been provided in the previous sub-sections.

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## SECTION 7. HANDLING AND STORAGE

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**7.1 Precautions for safe handling:** Keep out of reach of children. Keep away from heat, sparks and flame. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. No smoking, open flames or sources of ignition in handling and storage area. Electrically ground and bond all equipment. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. 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.

**7.2 Conditions for safe storage, including any incompatibilities:** 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.

**7.3 Specific end use(s):** Refer to product label.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 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>
fluroxypyr-meptyl (ISO)	Dow IHG	TWA	10 mg/m <sup>3</sup>
clopyralid (ISO)	Dow IHG	TWA	10 mg/m <sup>3</sup>
Dipropylene glycol monomethyl ether	ACGIH	TWA	100 ppm
	ACGIH	STEL	150 ppm
	ACGIH	TWA	Absorbed via skin
	ACGIH	STEL	Absorbed via skin
	2000/39/EC	TWA	308 mg/m <sup>3</sup> 50 ppm
	2000/39/EC	TWA	Absorbed via skin
	GB EH40	TWA	Absorbed via skin
	GB EH40	TWA	308 mg/m <sup>3</sup> 50 ppm
Propylene glycol	US WEEL	TWA	10 mg/m <sup>3</sup>
	GB EH40	TWA	474 mg/m <sup>3</sup> 150 ppm
	GB EH40	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.

### 8.2 Exposure controls

**Engineering controls:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

#### Skin protection

**Hand protection:** Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene/butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374)



is recommended. 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, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

#### Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	Liquid.
Color	Tan
Odor	Gasoline-like
Odor Threshold	No test data available
pH	2.74 <i>pH Electrode</i> (1% aqueous suspension)
Melting point/range	Not applicable
Freezing point	No test data available
Boiling point (760 mmHg)	No test data available
Flash point	<b>Pensky-Martens closed cup</b> 52 °C
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No test data available
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.0043
Water solubility	No test data available
Partition coefficient: n-octanol/water	no data available

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<b>Auto-ignition temperature</b>	> 400 °C
<b>Decomposition temperature</b>	No test data available
<b>Dynamic Viscosity</b>	5.25 mPa.s at 20 °C 3.12 mPa.s at 40 °C
<b>Kinematic Viscosity</b>	4.89 mm <sup>2</sup> /s at 20 °C 3.0 mm <sup>2</sup> /s at 40 °C
<b>Explosive properties</b>	No
<b>Oxidizing properties</b>	No significant increase (>5C) in temperature.

#### 9.2 Other information

<b>Liquid Density</b>	1.0043 g/cm <sup>3</sup> at 20 °C
<b>Molecular weight</b>	no data available
<b>Surface tension</b>	28.0 mN/m at 40 °C

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

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## SECTION 10. STABILITY AND REACTIVITY

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**10.1 Reactivity:** no data available

**10.2 Chemical stability:** Unstable at elevated temperatures.

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

**10.4 Conditions to avoid:** Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid direct sunlight.

**10.5 Incompatible materials:** Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

**10.6 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: Carbon monoxide. Carbon dioxide.

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## SECTION 11. TOXICOLOGICAL INFORMATION

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

#### 11.1 Information on toxicological effects

##### 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, > 2,000 - < 5,000 mg/kg

**Acute dermal toxicity**

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

As product:

LD50, rat, male and female, > 5,000 mg/kg

**Acute inhalation toxicity**

Product test data not available.

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.

May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**

May cause moderate eye irritation.

May cause slight 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)**

May cause respiratory irritation.

May cause drowsiness or dizziness.

**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 solvent(s):

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

Blood.

Eye.

Kidney.

Liver.

Respiratory tract.

For the minor component(s):

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

Gastrointestinal tract.

Urinary tract.

Lung.

Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

### **Carcinogenicity**

For the active ingredient(s): Clopyralid. For similar active ingredient(s): Triclopyr. Fluroxypyr-meptyl. Did not cause cancer in laboratory animals. For the minor component(s): Has caused cancer in laboratory animals. However, the relevance of this to humans is unknown.

### **Teratogenicity**

Clopyralid caused birth defects in test animals, but only at greatly exaggerated doses that were severely toxic to the mothers. No birth defects were observed in animals given clopyralid at doses several times greater than those expected during normal exposure. For the active ingredient(s): Triclopyr butoxyethyl ester. Fluroxypyr 1-methylheptyl ester. 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 solvent(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in lab animals only at doses producing severe toxicity in the mother.

### **Reproductive toxicity**

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

### **Mutagenicity**

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

### **Aspiration Hazard**

May be fatal if swallowed and enters airways.

## **COMPONENTS INFLUENCING TOXICOLOGY:**

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

#### **Acute inhalation toxicity**

Prolonged exposure is not expected to cause adverse effects. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

LC50, rat, 4 Hour, dust/mist, > 4.8 mg/l The LC50 value is greater than the Maximum Attainable Concentration.

### **fluroxypyr-meptyl (ISO)**

#### **Acute inhalation toxicity**

Prolonged exposure is not expected to cause adverse effects. Dust may cause irritation to upper respiratory tract (nose and throat).

Maximum attainable concentration. LC50, rat, male and female, 4 Hour, dust/mist, > 1.16 mg/l No deaths occurred at this concentration.

### **clopyralid (ISO)**

#### **Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Based on the available data, respiratory irritation was not observed. Based on the available data, narcotic effects were not observed.

As product: LC50, rat, 4 Hour, Dust, > 1 mg/l

No deaths occurred at this concentration., The LC50 value is greater than the Maximum Attainable Concentration.

**Hydrocarbons, C9, aromatics**

**Acute inhalation toxicity**

Vapor concentrations are attainable which could be hazardous on single exposure. May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

LC50, rat, 4 Hour, > 10.2 mg/l

**Dipropylene glycol monomethyl ether**

**Acute inhalation toxicity**

LC50, rat, 7 Hour, vapour, 3.35 mg/l No deaths occurred at this concentration.

**Propylene glycol**

**Acute inhalation toxicity**

Mist may cause irritation of upper respiratory tract (nose and throat). LC50, rabbit, 2 Hour, Aerosol, 317.042 mg/l No deaths occurred at this concentration.

**3-(Isodecyloxy)-1-propanamine**

**Acute inhalation toxicity**

The LC50 has not been determined.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

**Acute inhalation toxicity**

The LC50 has not been determined.

**kerosine - unspecified**

**Acute inhalation toxicity**

For similar material(s): LC0, rat, 4 Hour, dust/mist, > 4.778 mg/l

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## SECTION 12. ECOLOGICAL INFORMATION

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

### 12.1 Toxicity

**Triclopyr-2-butoxyethyl ester**

**Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

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, > 521 mg/kg

**fluroxypyr-meptyl (ISO)**

**Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 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

**clopyralid (ISO)**

**Acute toxicity to fish**

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, > 99.9 mg/l

LC50, Lepomis macrochirus (Bluegill sunfish), 96 Hour, > 102 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 99 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 30.0 mg/l

EC50, blue-green alga Anabaena flos-aquae, 120 Hour, 37.1 mg/l

EC50, Lemna gibba, 14 d, 89 mg/l

**Toxicity to bacteria**

Bacteria, > 100 mg/l

**Chronic toxicity to fish**

NOEC, Pimephales promelas (fathead minnow), 34 d, Other, 10.8 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), static test, 21 d, 17 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 practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50, Anas platyrhynchos (Mallard duck), 1465mg/kg bodyweight.

dietary LC50, Colinus virginianus (Bobwhite quail), 8 d, > 5000mg/kg diet.

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

contact LD50, Apis mellifera (bees), > 98.1micrograms/bee

oral LD50, Apis mellifera (bees), 48 Hour, mortality, > 98.1micrograms/bee

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 14 d, survival, > 1,000 mg/kg

**Hydrocarbons, C9, aromatics**

**Acute toxicity to fish**

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 9.22 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

LC50, saltwater mysid Mysidopsis bahia, 96 Hour, 2.0 mg/l

**Acute toxicity to algae/aquatic plants**

For similar material(s):

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 2.9 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).

dietary LC50, Colinus virginianus (Bobwhite quail), 8 d, > 6500mg/kg diet.

oral LD50, Colinus virginianus (Bobwhite quail), 21 d, > 2150mg/kg bodyweight.

**Dipropylene glycol monomethyl ether**

**Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Poecilia reticulata (guppy), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), static test, 48 Hour, 1,919 mg/l, OECD Test Guideline 202 or Equivalent

LC50, Crangon crangon (shrimp), semi-static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Biomass, > 969 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

EC10, Pseudomonas putida, 18 Hour, 4,168 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), flow-through test, 22 d, > 0.5 mg/l

LOEC, Daphnia magna (Water flea), flow-through test, 22 d, > 0.5 mg/l

MATC (Maximum Acceptable Toxicant Level), Daphnia magna (Water flea), flow-through test, 22 d, > 0.5 mg/l

**Propylene glycol**

**Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

LC50, Ceriodaphnia Dubia (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

NOEC, Pseudomonas putida, 18 Hour, > 20,000 mg/l



**Chronic toxicity to aquatic invertebrates**

NOEC, Ceriodaphnia Dubia (water flea), semi-static test, 7 d, number of offspring, 13,020 mg/l

**3-(Isodecyloxy)-1-propanamine****Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

For similar material(s):

LC50, 96 Hour, 0.16 mg/l

**Acute toxicity to aquatic invertebrates**

For similar material(s):

EC50, 48 Hour, 0.132 mg/l

**Chronic toxicity to fish**

For analogous substance

NOEC, 30 d, 0.05 mg/l

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts****Acute toxicity to fish**

No relevant data found.

**kerosine - unspecified****Acute toxicity to fish**

For similar material(s):

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

EC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 3.6 mg/l

**Acute toxicity to aquatic invertebrates**

For similar material(s):

EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, 1.1 mg/l

**Acute toxicity to algae/aquatic plants**

For similar material(s):

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 7.9 mg/l

**12.2 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:** 1.21 mg/mg**Biological oxygen demand (BOD)**

Incubation Time	BOD

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

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

**fluroxypyr-meptyl (ISO)****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

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

10-day Window: Fail

**Biodegradation:** 5 - 10 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301B or Equivalent**Theoretical Oxygen Demand:** 0.71 mg/mg**Stability in Water (1/2-life)**

Hydrolysis, pH 4 - 9, Half-life Temperature , Stable

**Hydrocarbons, C9, aromatics****Biodegradability:** For the major component(s): Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. For some component(s): 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.**Dipropylene glycol monomethyl ether****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:** 75 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301F or Equivalent**Propylene glycol****Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

**Biodegradation:** 81 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

**Biodegradation:** 96 %

**Exposure time:** 64 d

**Method:** OECD Test Guideline 306 or Equivalent

**3-(Isodecyloxy)-1-propanamine**

**Biodegradability:** 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.

**Biodegradation:** 45 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

**Biodegradability:** No relevant data found.

**kerosine - unspecified**

**Biodegradability:** For similar material(s): Biodegradation may occur under aerobic conditions (in the presence of oxygen). 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.

**12.3 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-meptyl (ISO)**

**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

**clopyralid (ISO)**

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

**Partition coefficient: n-octanol/water(log Pow):** -2.63

**Bioconcentration factor (BCF):** < 1 Fish Measured

**Hydrocarbons, C9, aromatics**

**Bioaccumulation:** For the major component(s): Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). For the minor component(s): Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Dipropylene glycol monomethyl ether**

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

**Partition coefficient: n-octanol/water(log Pow):** 1.01 Measured

**Propylene glycol**

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

**Partition coefficient: n-octanol/water(log Pow):** -1.07 Measured

**Bioconcentration factor (BCF):** 0.09 Estimated.

**3-(Isodecyloxy)-1-propanamine**

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

**Partition coefficient: n-octanol/water(log Pow):** 3.92

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

**Bioaccumulation:** No relevant data found.

**kerosine - unspecified**

**Bioaccumulation:** For similar material(s): Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**12.4 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-meptyl (ISO)**

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

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

**clopyralid (ISO)**

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

**Partition coefficient(Koc):** 4.9

**Hydrocarbons, C9, aromatics**

No relevant data found.

**Dipropylene glycol monomethyl ether**

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

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

**Partition coefficient(Koc):** 0.28 Estimated.

**Propylene glycol**

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

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

**Partition coefficient(Koc):** < 1 Estimated.

**3-(Isodecyloxy)-1-propanamine**

No relevant data found.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

No relevant data found.

**kerosine - unspecified**

No data available.

**12.5 Results of PBT and vPvB assessment**

**Triclopyr-2-butoxyethyl ester**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**fluroxypyr-meptyl (ISO)**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**clopyralid (ISO)**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is considered to be very persistent and very bioaccumulating (vPvB).

**Hydrocarbons, C9, aromatics**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Dipropylene glycol monomethyl ether**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Propylene glycol**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**3-(Isodecyloxy)-1-propanamine**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**kerosine - unspecified**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**12.6 Other adverse effects**

**Triclopyr-2-butoxyethyl ester**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**fluroxypyr-meptyl (ISO)**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**clopyralid (ISO)**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**Hydrocarbons, C9, aromatics**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**Dipropylene glycol monomethyl ether**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**Propylene glycol**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**3-(Isodecyloxy)-1-propanamine**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

**kerosine - unspecified**

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**13.1 Waste treatment 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.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

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**SECTION 14. TRANSPORT INFORMATION**

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**Classification for ROAD and Rail transport (ADR/RID):**

<b>14.1 UN number</b>	UN 1993
<b>14.2 Proper shipping name</b>	FLAMMABLE LIQUID, N.O.S.(Solvent naphtha (petroleum), heavy aromatic, Triclopyr-2-butoxyethyl ester)
<b>14.3 Class</b>	3
<b>14.4 Packing group</b>	III
<b>14.5 Environmental hazards</b>	Triclopyr-2-butoxyethyl ester

**14.6 Special precautions for user** Special Provision 640E  
Hazard identification No: 30

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

**14.1 UN number** UN 1993  
**14.2 Proper shipping name** FLAMMABLE LIQUID, N.O.S.(Solvent naphtha (petroleum), heavy aromatic, Triclopyr-2-butoxyethyl ester)  
**14.3 Class** 3  
**14.4 Packing group** III  
**14.5 Environmental hazards** Triclopyr-2-butoxyethyl ester  
**14.6 Special precautions for user** EmS: F-E, S-E  
**14.7 Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code** Consult IMO regulations before transporting ocean bulk

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

**14.1 UN number** UN 1993  
**14.2 Proper shipping name** Flammable liquid, n.o.s.(Solvent naphtha (petroleum), heavy aromatic, Triclopyr-2-butoxyethyl ester)  
**14.3 Class** 3  
**14.4 Packing group** III  
**14.5 Environmental hazards** Not applicable  
**14.6 Special precautions for user** No data available.

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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## SECTION 15. REGULATORY INFORMATION

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Other regulations

Registration Number: MAPP 16465

This product contains only components that have been either pre-registered, registered, are exempt from registration or are regarded as registered according to Regulation (EC) No. 1907/2006 (REACH).

The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

### 15.2 Chemical Safety Assessment

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

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## SECTION 16. OTHER INFORMATION

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### Full text of H-Statements referred to under sections 2 and 3.

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

### Full text of R-phrases referred to under sections 2 and 3

R10	Flammable.
R22	Harmful if swallowed.
R34	Causes burns.
R37	Irritating to respiratory system.
R37/38	Irritating to respiratory system and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Flam. Liq. - 3 - H226 - On basis of test data.

2 - H319 - On basis of test data.

Skin Sens. - 1B - H317 - On basis of test data.

STOT SE - 3 - H335 - Calculation method

STOT SE - 3 - H336 - Calculation method

Asp. Tox. - 1 - H304 - Calculation method



Aquatic Acute - 1 - H400 - Calculation method  
Aquatic Chronic - 1 - H410 - Calculation method

**Revision**

Identification Number: 101267220 / A293 / Issue Date: 13.08.2014 / Version: 2.1

DAS Code: GF-2953

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

**Legend**

2000/39/EC	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
GB EH40	UK. EH40 WEL - Workplace Exposure Limits
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

**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 LIMITED 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.