



# SAFETY DATA SHEET

## TWIN-STAR™

Date of Issue: 10 October 2018

### 1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

**Chemical name of active ingredient(s):** Ioxynil octanoate

**Recommended use:** HERBICIDE

**Supplier:** Etec Crop Solutions Limited  
PO Box 51584  
Pakuranga, Auckland  
Phone 0800 100 325

**Emergency telephone number:** 0800 CHEM CALL (0800 243 622)  
24 Hours

### 2. HAZARDS IDENTIFICATION

**Hazard Classification:** Flammability - 3.1D,  
Toxic - 6.1D, 6.3B, 6.4A, 6.5B, 6.7B, 6.8B, 6.9B  
Ecotoxic - 9.1A, 9.2A, 9.3B

**Required identification Details:** **WARNING**  
**READ LABEL BEFORE USE**  
**KEEP AWAY FROM FLAMES AND HOT SURFACES**  
**KEEP CONTAINER TIGHTLY CLOSED**  
**KEEP OUT OF REACH OF CHILDREN**

Combustible liquid.  
May be harmful if swallowed, inhaled or absorbed through the skin.  
May cause skin and eye irritation.  
May cause sensitisation to the skin  
Suspected of causing cancer.  
Suspected of damaging fertility or the unborn child from repeated oral exposure.  
May cause damage to lungs from repeated oral exposure.  
Very toxic to aquatic organisms.  
Very toxic to the soil environment.  
Toxic to terrestrial invertebrates.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/preparation Information on hazardous ingredients**

<b>Common name</b>	<b>CAS No</b>	<b>%</b>
Ioxynil octanoate	3861-47-0	10-30%
Napthalene	91-20-3	< 10%
Hydrocarbons	64742-94-5	> 60%

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**4. FIRST-AID MEASURES****Description of necessary first aid measures:****Effects and symptoms**

Harmful if swallowed or inhaled. Irritating to skin. Severe eye irritant.

**First-aid measures****Inhalation:**

Avoid inhalation. Vapours may cause headache, dizziness and nausea. Move person to fresh air. If person is not breathing call 111 or an ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). Call National Poison Center 0800 Poison (0800 764 766) or Doctor for treatment advice.

**Ingestion:**

Avoid ingestion. May cause nausea, headache, cramps, vomiting. Call the National Poison Center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the Poison Center or Doctor. Never give anything by mouth to an unconscious person.

**Skin contact:**

Avoid skin contact. May cause irritation to the skin. Immediately get under a safety shower. Wash affected skin areas thoroughly with soap and water. Remove and wash contaminated clothing thoroughly. Do not take clothing home to be laundered. Get prompt medical attention.

**Eye contact:**

Avoid contact with the eyes. May cause irritation to the eyes. Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call National Poison Center or doctor for treatment advice.

**Notes to a physician:**

No specific antidote known. Treat symptomatically.

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**5. FIRE-FIGHTING MEASURES****HAZCHEM Code:**

2X

**Extinguishing media :**

Water fog, Carbon dioxide, dry chemical, foam.

**Hazardous thermal  
(de)composition products:**

Iodide compounds, nitrogen oxides and cyanide.

**Protection of fire-fighters:**

Remain upwind. Use water spray to cool containers exposed to fire. Wear full protective clothing and self contained

breathing apparatus. Do not breath smoke or gases.

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## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Wear protective clothing and personal protective equipment as described in section 8. Keep unprotected persons and animals out of the area.
<b>Environmental precautions:</b>	Keep material out of lakes, streams, ponds and sewer drains
<b>Methods for cleaning up:</b>	Dike to confine spill and absorb with a inert materials absorbent such as clay, sand or soil. Shovel or pump waste into a drum and label contents for disposal.

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## 7. HANDLING AND STORAGE

<b>Handling:</b>	Avoid contact with eyes and skin. Keep away from sparks, open flame and direct sunlight. Do not handle material near food, feed or drinking water. Keep out of reach of children.
<b>Storage:</b>	Store away from sparks, heat and flames. Store in original container tightly closed and in a locked, dry, cool, well ventilated area, away from feed, seeds and foodstuffs. Keep out of direct sunlight. Storage must be generally in accordance with NZS8409 Management of Agrichemicals. See the HAZNOTE for further information.
<b>Packaging materials:</b>	HDPE Jerry cans

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace Exposure Guidelines

<b>Workplace exposure standards:</b>	Ioxynil octanoate – not established Fluroxypyr – not established Xylene - 50 ppm (TWA) None established
<b>Exposure Standards outside: The workplace:</b>	

### Engineering measures

<b>Exposure control measures:</b>	Provide general and/or local ventilation to control airborne levels.
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### Personal Protective Equipment

#### **Detail specifications for equipment:**

<b>Respiratory system:</b>	None required if airborne concentrations are limited.
<b>Skin and body:</b>	When mixing or applying, wear protective clothing.
<b>Hands:</b>	Use gloves chemically resistant (eg: nitrile or neoprene) when prolonged or frequently repeated contact could occur.
<b>Eyes:</b>	Use safety glasses
<b>General hygiene:</b>	Do not eat, drink or smoke when using. Wash hands and face before meals and after work.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid
<b>Colour:</b>	Yellowish brown
<b>Odour:</b>	Aromatic
<b>pH:</b>	3.5-5.0
<b>Vapour Pressure:</b>	<1mPa@20°C (Ioxynil Octanoate) not available for Fluroxypyr
<b>Vapour Density:</b>	Not available
<b>Boiling Point:</b>	135°C
<b>Freezing/melting point:</b>	Not available
<b>Solubility:</b>	< 1 ppm (a.i.)
<b>Specific gravity or density:</b>	1.012
<b>Flashpoint:</b>	72°C
<b>Octanol/water partition coefficient:</b>	Log = 6.12 (Ioxynil Octanoate)
<b>Explosion properties:</b>	Lower = 0.8 volume% Upper = 7 volume %
<b>Oxidation properties:</b>	Not an oxidizer

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## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under normal conditions
<b>Conditions to avoid:</b>	
<b>Materials to avoid:</b>	Oxidising agents, acids and alkali
<b>Hazardous decomposition Products:</b>	Iodide compounds, nitrogen oxides and cyanide
<b>Hazardous polymerization:</b>	Not subject to polymerization
<b>Specific Data:</b>	
<b>Hazardous reactions :</b>	None known

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## 11. TOXICOLOGICAL INFORMATION

<b>Acute toxicity – Oral :</b>	LD <sub>50</sub> >2000 mg/kg (rat) (a.i)
<b>Acute toxicity - Dermal :</b>	LD <sub>50</sub> >1000mg/kg (rat) (a.i)
<b>Acute toxicity – Inhalation:</b>	LC <sub>50</sub> >5.63 mg/kg (rat) (4 hours) (a.i.)
<b>Skin irritation :</b>	Moderately irritating (rabbit)
<b>Eye irritation:</b>	Severely irritating (rabbit)
<b>Sensitization :</b>	Moderate sensitizer (guinea-pig)
<b>Chronic toxicity</b>	
<b>Carcinogenicity:</b>	Suspected of causing cancer.
<b>Mutagenicity:</b>	Not mutagenic
<b>Reproduction toxicity:</b>	Studies in rats and rabbits indicate that fluroxypyr does not cause birth defects or interfere with reproduction. Fluroxypyr does not cause genetic change and does not accumulate in the body. Ioxynil octanoate is classified as a category 3 teratogen: - substances which cause concern for man owing to possible teratogenic effects but in respect of which the information is not adequate for making a satisfactory assessment.
<b>Other information :</b>	

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## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Fluroxypyr methylheptyl ester has low toxicity to birds, honey
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bees and earthworms; and moderate toxicity to fish and aquatic organisms. Fluroxypyr methylheptyl ester is rapidly degraded to fluroxypyr acid which has low toxicity to fish, birds, honey bees, livestock and aquatic organisms. Fluroxypyr will not bio-accumulate in animal systems.

#### Ioxynil octanoate

*Fish toxicity:* LC50 (48 h) for harlequin fish 4 mg/L; LC50 (96 h) rainbow trout 0.043 mg/L.

*Bird toxicity:* Acute oral LD50 for pheasants 1000 mg/kg; for mallard ducks > 1200 mg/kg.

*Other:* EC50 (48 h) Daphnia 4.0 mg/L

DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

Contact LD<sub>50</sub> (48 hours) >400 ug/bee

LD<sub>50</sub> = 1,000 ppm mg/kg (Pheasants)

LD<sub>50</sub> > 1,200 ppm mg/kg (Mallard duck)

#### **Persistence/degradability Soil & Water**

Ioxynil octanoate is not persistent.

Half-life time (t<sub>1/2</sub>): ~ 10 days.

Degradation is primarily via: hydrolysis and microorganisms  
Fluroxypyr methylheptyl ester is almost completely degraded within one week to fluroxypyr acid in soil and water.

Fluroxypyr acid is primarily degraded by microbial action. It has a half-life of about 3 to 6 days in soil under aerobic conditions depending on soil type and climatic conditions. In sterile water, fluroxypyr acid has a half-life of 185 to 265 depending on the pH. Fluroxypyr is not expected to move into ground water. Residues typically remain in the top 10 centimetres of a soil profile. If used according to the label directions, Starane will not be harmful to the environment.

#### **Bioaccumulative potential :**

Not bioaccumulative

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### **13. DISPOSAL CONSIDERATIONS**

#### **Methods of disposal :**

Triple rinse container and add residue to spray tank. Burn if permitted and circumstances, especially wind direction permit, otherwise bury in landfill.

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### **14. TRANSPORT INFORMATION - International transport regulations**

#### **UN number:**

**3082**

#### **Class or Division:**

9

#### **Packing Group:**

III

#### **Marine Pollutant:**

Marine pollutant

#### **Proper shipping name :**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUROXYPYR and IOXYNIL)

#### **INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):**

Dangerous Goods

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### **15. REGULATORY INFORMATION**

**ACVM Registered Number:**  
**HSNO Approval Code:**

P005122  
HSR101288

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## 16. OTHER INFORMATION

**Additional information:**

**Original Issue Date:** 20.09.2005  
**Revision Date:** 10 October 2018  
**Replaces:** ES401

### **EXCLUSION OF LIABILITY: PLEASE READ**

This Safety Data Sheet is based on the most recent information available. To the extent permitted by law, users of this information accept that neither the manufacturer, Etec Crop Solutions Limited as distributor, nor any other distributor have any liability or responsibility whatsoever for any loss, damage or injury whether in contract or tort, whether direct, indirect or consequential howsoever arising in connection with the supply of these information.

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