

TWIN-STAR™

Date of Issue: 9TH December 2005

1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

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

Recommended use: HERBICIDE

Supplier: Elliott Technologies Limited
45 Kitchener Road
Pukekohe
Phone 0800 100 325

Emergency telephone number: 0800 Poison (0800 764 766) 24 Hours

2. HAZARDS IDENTIFICATION

Hazard Classification: Flammability - 3.1C,
Toxic - 6.1D, 6.3B, 6.4A, 6.5B, 6.8B, 6.9B,
Ecotoxic -9.1A, 9.2A, 9.3C
Approved Handler Applies

Required identification Details: **WARNING**
FLAMMABLE LIQUID
KEEP AWAY FROM SOURCES OF IGNITION
KEEP OUT OF REACH OF CHILDREN
ECOTOXIC

May be harmful if swallowed, inhaled or absorbed through the skin.

May cause sensitisation to the skin

May cause eye irritation.

High doses from repeated oral exposure may cause reproductive/development damage and lung damage

Ecotoxic -Very toxic to aquatic organisms.

Harmful to terrestrial invertebrates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation Information on hazardous ingredients

Common name	CAS No	%
Ioxynil octanoate	1689-83-4	14
Fluroxypyr (as the methyl Heptyl ester)	69377-81-7	8
Inert Ingredients:		
Xylene	1330-20-7	37
Petroleum solvent		25

4. FIRST-AID MEASURES

Description of necessary first aid measures:**Effects and symptoms**
First-aid measures

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

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.

5. FIRE-FIGHTING MEASURES

HAZCHEM Code:

3XE

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear protective clothing and personal protective equipment as described in section 8. Keep unprotected persons and animals out of the area.
Environmental precautions:	Keep material out of lakes, streams, ponds and sewer drains
Methods for cleaning up:	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.

7. HANDLING AND STORAGE

Handling:	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.
Storage:	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.
Packaging materials:	HDPE Jerry cans

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Guidelines

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

Engineering measures

Exposure control measures:	Provide general and/or local ventilation to control airborne levels.
-----------------------------------	--

Personal Protective Equipment

Detail specifications for equipment:

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Colour:	Yellowish brown
Odour:	Aromatic
pH:	3.5-5.0
Vapour Pressure:	<1mPa@20°C (Ioxynil Octanoate) not available for Fluroxypyr
Vapour Density:	Not available
Boiling Point:	135°C
Freezing/melting point:	Not available
Solubility:	< 1 ppm (a.i.)
Specific gravity or density:	1.012
Flashpoint:	45.4°C (By calculation)
Octanol/water partition coefficient:	Log = 6.12 (Ioxynil Octanoate)
Explosion properties:	Lower = 0.8 volume% Upper = 7 volume %
Oxidation properties:	Not an oxidizer

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Acute toxicity – Oral :	LD ₅₀ >2000 mg/kg (rat) (a.i)
Acute toxicity - Dermal :	LD ₅₀ >1000mg/kg (rat) (a.i)
Acute toxicity – Inhalation:	LC ₅₀ >5.63 mg/kg (rat) (4 hours) (a.i.)
Skin irritation :	Moderately irritating (rabbit)
Eye irritation:	Severely irritatiting (rabbit)
Sensitization :	Moderate sensitizer (guinea-pig)
Chronic toxicity	
Carcinogenicity:	EPA: Not classified EU: Not classified IARC: Not classified
Mutagenicity:	Not mutagenic
Reproduction toxicity:	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.
Other information :	

12. ECOLOGICAL INFORMATION

Ecotoxicity	Fluroxypyr methylheptyl ester has low toxicity to birds, honey 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 bioaccumulate 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 LD₅₀ (48 hours) >400 ug/bee

LD₅₀ = 1,000 ppm mg/kg (Pheasants)

LD₅₀ > 1,200 ppm mg/kg (Mallard duck)

Persistence/degradability Soil & Water

Ioxynil octanoate is not persistent.

Half-life time (t_{1/2}): ~ 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

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.

14. TRANSPORT INFORMATION - International transport regulations

UN number:

1993

Class or Division:

3

Packing Group:

III

Marine Pollutant:

Marine pollutant

Proper shipping name :

Flammable liquid, N.O.S (Naptha, Ioxynil octanoate) (Pesticide, liquid, toxic, flammable, N.O.S)

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

Dangerous Goods

15. REGULATORY INFORMATION

ACVM Registered Number:

P5122

16. OTHER INFORMATION

Additional information:

Original Issue Date: 20.09.2005

Revision Date: N/A

Replaces: N/A

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, Elliott Technologies 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.

TM - Trade Mark of Elliott Technologies Ltd

® - Registered TM of Elliott Technologies Ltd