

Unyunox® 250 EC Selective Herbicide

Date of Issue: 21 December 2022

1. IDENTIFICATION**Product Identifier:** Unyunox® 250 EC Selective Herbicide**Other Means of Identification:** None**Recommended Use of the Chemical and Restrictions on Use:** Selective Herbicide**Details of the Manufacturer or Importer:** AgNova Technologies Pty Ltd
Unit 4, 482 Kingsford Smith Drive
Hamilton Qld 4007
Australia
(03) 9899 8100
agnova.com.au**Emergency Phone Number:** 1800 033 111 (24 hrs) IXOM ERS
13 11 26 Poisons Information Centre**2. HAZARD(S) IDENTIFICATION****Classification of the Hazardous Chemical according to GHS:****Signal word:** Danger**Pictogram:** Exclamation mark, Health hazard, Environment**GHS Hazard Class and Category:**Flammable Liquids – Category 4

Hazard Statement: H227 – Combustible liquid

Acute toxicity – Category 4

Hazard statement: H302 Harmful if swallowed.

Eye Damage/Irritation – Category 2A

Hazard statement: H319 Causes serious eye irritation.



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Skin sensitisation – Category 1

Hazard statement: H317 May cause an allergic skin reaction.

Carcinogenicity – Category 2

Hazard statement: H351 Suspected of causing cancer.

Reproductive toxicity – Category 2

Hazard statement: H361 Suspected of damaging fertility or the unborn child.

Aspiration hazard – Category 1

Hazard statement: H304 May be fatal if swallowed and enters airways.

Acute aquatic toxicity – Category 1

Hazard statement: H400 Very toxic to aquatic life.

Chronic aquatic toxicity – Category 1

Hazard statement: H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P261 Avoid breathing mist and spray.

P264 Wash hands and face thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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

P273 Avoid release to the environment.

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

Response

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

P330 Rinse mouth.

P331 Do NOT induce vomiting.

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

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P321 Specific treatment (see First Aid section on label)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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

P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

P391 Collect spillage.



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Storage

P403 Store in a well-ventilated place.

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

ADG Classification: Not classified as Dangerous Goods for Land Transport. See section 14

SUSMP Classification: Poison Schedule 6

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (%):
loxynil octanoate	3861-47-0	31.30
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	≥55.00–≤ 65.00
Naphthalene	91-20-3	≤6.50
2-Ethylhexan-1-ol	104-76-7	<3.00
Other ingredients (non-hazardous) to 100%		

4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (Phone 13 11 26), and follow the advice given. Show this Safety Data Sheet to a doctor.

Description of Necessary First Aid Measures:

Inhalation: Move the victim to fresh air and keep at rest. If symptoms persist, call a physician. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice.

Skin Contact: Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.



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Ingestion:	Keep patient warm and at rest. Obtain medical attention. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
First Aid Facilities:	Provide washing facilities in the workplace.
Symptoms Caused by Exposure:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Inhalation of high vapour concentrations can cause CNS depression and narcosis. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache). Aspiration may cause pulmonary oedema and pneumonitis. Symptoms of Overexposure, Tiredness, Thirst, Fever, Anxiety, Hyperventilation, Tachycardia, Muscle rigidity, Hypothermia, Pulmonary oedema.
Medical Attention and Special Treatment:	Treat symptomatically. There is no specific antidote. In the event of a mouthful or more being ingested, the following measures should be considered: Monitor: respiratory, cardiac and central nervous system. In case of ingestion a gastric lavage within the first hour after ingestion and after intubation only with consecutive application of activated charcoal and sodium sulphate should be performed. In case of aspiration intubation and bronchial lavage should be considered. In case of hyperthermia physical cooling is advisable; in case of muscle rigidity muscle relaxants and mechanical ventilation may support in counteracting hyperthermia.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Equipment:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special Hazards Arising from the Chemical:	In the event of fire the following may be released:, Carbon dioxide (CO ₂), Carbon monoxide (CO), Nitrogen oxides (NO _x), Hydrogen iodide (HI)
Special Protective Equipment and Precautions for Firefighters:	Wear self-contained breathing apparatus and protective suit.



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Further Information: Whenever possible, contain firefighting water by dyking area with sand or earth. Avoid contact with spilled product or contaminated surfaces. Evacuate personnel to safe areas. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Do not allow run-off from firefighting to enter drains or water courses.

Hazchem Code: •3Z

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Keep unauthorised people away. Ensure adequate ventilation. Remove all sources of ignition. Use personal protective equipment.

Environmental Precautions:

Contain contaminated water and firefighting water. Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and Materials for Containment and Cleaning Up:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Reference to Other Sections:

Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Use only in area provided with appropriate exhaust ventilation.
Contact with eyes and skin must be avoided. Wash thoroughly with soap and water after handling. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash hands immediately after work, if necessary take a shower.



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Conditions for Safe Storage, including any Incompatibilities Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store for prolonged periods in direct sunlight. Store at room temperature. Protect from freezing. Keep away from food, drink and animal feeding stuffs.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control Parameters:

Components	CAS No.	Control parameters	Update	Basis
loxynil octanoate	3861-47-0	0.21 mg/m ³ (SK-SEN)		OES BCS*
Naphthalene	91-20-3	79 mg/m ³ /15 ppm (STEL)	12 2011	AU NOEL
Naphthalene	91-20-3	52 mg/m ³ /10 ppm (TWA)	12 2011	AU NOEL
Naphthalene	91-20-3	10 ppm (TLV)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Engineering Controls: Use only in area provided with appropriate exhaust ventilation.

Individual Protection Measures, for example, Personal Protective Equipment (PPE):

Respiratory protection: Use respiratory protection for organic vapours.

Hand protection: Gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasions, and the contact time. Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed.

Material	Nitrile rubber
Rate of permeability	>480 min
Glove thickness	>0.4 mm
Protective index	Class 6

Eye protection: Face-shield

Skin and body protection: Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under



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chemical protection suit and should be professionally laundered frequently. General protective measures: In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid, clear
Colour:	Yellow to brown
Odour:	Of aromatic hydrocarbons
Flash Point:	66°C
Density:	ca. 1.07 g/cm ³ at 20°C
Partition Coefficient (n-octanol/water):	loxynil octanoate: log Pow: 6.0
Other Information:	Further safety related physical-chemical data are not known.

10. STABILITY AND REACTIVITY

Reactivity:	Stable under normal conditions.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions:	No hazardous reactions when stored and handled according to prescribed instructions. Stable under normal conditions.
Conditions to Avoid:	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible Materials:	Bases, Strong oxidizing agents, Strong reducing agents.
Hazardous Decomposition Products:	Thermal decomposition can lead to release of: Nitrogen oxides (NO _x), Carbon oxides, Iodine compounds

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity:	LD50 (Rat) 602 mg/kg
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Acute Inhalation Toxicity:	LC50 (Rat) >3 mg/L Exposure time: 6 h The value mentioned relates to the active ingredient ioxynil.
Acute Dermal Toxicity:	LD50 (Rat) >2,000 mg/kg
Skin Corrosion/Irritation:	Slight irritation (Rabbit)
Serious Eye Damage/Irritation:	Irritating to eyes (Rabbit)
Respiratory or Skin Sensitisation:	Sensitising (Guinea pig)
Germ Cell Mutagenicity:	loxynil octanoate was not mutagenic or genotoxic based on the overall weight of evidence in a battery of <i>in vitro</i> and <i>in vivo</i> tests.

Carcinogenicity:

loxynil octanoate caused at high dose levels an increased incidence of tumours in the following organ(s): thyroid, liver. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

Naphthalene caused an increased incidence of tumours after chronic inhalation of high vapour concentrations in the following organ: respiratory tract. The tumours seen with naphthalene were caused through a non-genotoxic mechanism, which is not relevant at low doses.

Reproductive Toxicity:

loxynil octanoate was not a reproductive toxicant at non-maternally toxic dose levels in a two-generation study in rats. loxynil octanoate caused a reduced litter size and a reduced pup weight. The reproduction toxicity seen with loxynil octanoate is related to parental toxicity.

Developmental Toxicity:

loxynil octanoate caused developmental toxicity only at dose levels toxic to the dams. loxynil octanoate caused a delayed ossification of foetuses. The developmental effects seen with loxynil octanoate are related to maternal toxicity.

Specific Target Organ Toxicity (STOT) – single exposure:

loxynil octanoate: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) – repeated exposure:

loxynil octanoate caused specific target organ toxicity in experimental animal studies in the following organ(s): Blood, Liver. The observed effects do not appear to be relevant for humans.

Aspiration Hazard:

May be fatal if swallowed and enters airways.



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Information on Possible Routes of Exposure:

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. High concentration of vapours may cause irritation to eyes and respiratory system and produce narcotic effects. Inhalation of high vapour concentrations can cause CNS-depression and narcosis.

Prolonged skin contact may cause skin irritation and/or dermatitis.

Skin sensitiser. Causes eye irritation.

Harmful if swallowed. May lead to rapid onset of nausea, vomiting, diarrhea, excess salivation, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, convulsions. Small amounts of the solvent in this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury.

Early Onset Symptoms Related to Exposure:

Refer to Section 4

Delayed Health Effects from Exposure:

Refer to Section 11

Exposure Levels and Health Effects:

Refer to Section 4

Interactive Effects:

Not known

When Specific Chemical Data is Not Available:

Not applicable

Mixture of Chemicals:

Refer to Section 2.1

Other Information:

No further toxicological information is available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Toxicity to Fish: LC50 (*Lepomis macrochirus* (Bluegill sunfish)) 0.024 mg/L Exposure time: 96 h
This value relates to the active ingredient ioxynil-octanoate.

Toxicity to Aquatic Invertebrates: EC50 (*Daphnia* (water flea)) 0.011 mg/L Exposure time: 48 h
This value relates to the active ingredient ioxynil-octanoate.

Toxicity to Aquatic Plants: EC50 (*Navicula pelliculosa* (Freshwater diatom)) 0.24 mg/L Exposure time: 72 h
This value relates to the active ingredient ioxynil-octanoate.



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Toxicity to Other Organisms:	LD50 (<i>Coturnix japonica</i> (Japanese quail)) 677 mg/kg This value relates to the active ingredient ioxynil-octanoate. LD50 (Pheasant) 1,000 mg/kg This value relates to the active ingredient ioxynil-octanoate. LD50 (<i>Anas platyrhynchos</i> (Mallard duck)) 1,200 mg/kg This value relates to the active ingredient ioxynil-octanoate.
Persistence and Degradability:	ioxynil octanoate: Not rapidly biodegradable ioxynil octanoate: Koc: 289
Bioaccumulative Potential:	ioxynil octanoate: Bioconcentration factor (BCF) 188 Does not bioaccumulate.
Mobility in Soil:	ioxynil octanoate: Moderately mobile in soils.
Other Adverse Effects:	No other effects to be mentioned.

13. DISPOSAL CONSIDERATIONS

Triple-rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. Do not burn empty containers or product.

14. TRANSPORT INFORMATION

Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail 7th Edition when being transported in IBCs or other receptacles <500 L(kg), (Special Provision AU01).

ADG Road and Rail Transport: Not dangerous goods under the ADG7

UN Number: 3082

Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IOXYNIL OCTANOATE, SOLVENT NAPHTHA (PETROLEUM) LIGHT AROMATIC SOLUTION)

Transport Hazard Class: 9

Packing Group: III



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Environmental Hazards for Transport Purposes: Acute aquatic toxicity – Category 1
Chronic aquatic toxicity – Category 1

Special Precautions for User: Not applicable

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Marine and Air Transport: Classified as Dangerous Goods for transport by sea and air according to the criteria of the UN Model Regulations for Transport of Dangerous Goods 13th edition.

IMDG

UN Number: 3082

Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IOXYNIL OCTANOATE, SOLVENT NAPHTHA (PETROLEUM) LIGHT AROMATIC SOLUTION)

Transport Hazard Class: 9

Packing Group: III

Environmental Hazards for Transport Purposes: Marine Pollutant

Special Precautions for User: Not applicable

IATA

UN Number: 3082

Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IOXYNIL OCTANOATE, SOLVENT NAPHTHA (PETROLEUM) LIGHT AROMATIC SOLUTION)

Transport Hazard Class: 9

Packing Group: III

Environmental Hazards for Transport Purposes: Marine Pollutant

Special Precautions for User: Not applicable



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15. REGULATORY INFORMATION

APVMA: Registered according to the Agricultural and Veterinary Chemicals Act 1994
APVMA approval number: 87974

SUSMP: Schedule 6

16. OTHER INFORMATION

Date of Preparation or Revision: 21 December 2022

Reason for Revision: To comply with GHS 7

Abbreviations and Acronyms:	APVMA	Australian Pesticides and Veterinary Medicines Authority
	AU NOEL	Australian No Observed Effect Level
	EC	Effective Concentration
	GHS	Globally Harmonised System of Classification and Labelling of Chemicals
	IATA	International Air Transport Association
	IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
	IMDG	International Maritime Dangerous Goods
	LC	Lethal Concentration
	LD	Lethal Dose
	SK-SEN	Skin Sensitiser
	STEL	Short Term Exposure Limit
	SUSMP	Standard for Uniform Scheduling of Medicines and Poisons
	TWA	Time-Weighted Average

Data Sources: Manufacturer product safety data and published data

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.



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The opinions expressed herein are those of qualified experts with the manufacturer. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of AgNova Technologies Pty Ltd, it is the user's obligation to determine the conditions of safe use of the product.

END OF SDS