

Section 1: Identification

Product name: Unyunox® 250 EC Selective Herbicide

Other names: None

Recommended use: Selective Herbicide

Manufacturer/Importer details: AgNova Technologies NZ Ltd
PO Box 301488, Albany
Auckland 0752
Phone: 0800 00 599

24-hour emergency contact: 0800 CHEMCALL (0800 243 622)

National Poisons Centre: 0800 POISON (0800 764 766)

Section 2: Hazard identification

Product is classified as hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020 of the HSNO Act, 1996.

HSNO Approval: HSR000525

Hazardous classification: Flammable liquid Category 4, Acute toxicity (oral) Category 4, Acute toxicity (dermal) Category 4, Eye irritation Category 2, Skin sensitisation Category 1, Reproductive toxicity Category 2, Specific target organ toxicity (repeated) Category 2, Hazardous to the aquatic environment (acute) Category 1, Hazardous to the aquatic environment (chronic) Category 1, Hazardous to terrestrial vertebrates.

Pictograms:



Signal word: **WARNING**

Hazard statements: H227 Combustible liquid.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs, Blood, Liver, through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Prevention statements: P102 Keep out of reach of children.
P103 Read label before use.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions

	<p>have been read and understood. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 Do not breathe /mist/ /spray. P264 Wash hands and face thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P281 Use personal protective equipment as required.</p>
Response statements:	<p>P301+P312 IF SWALLOWED: Immediately call a POISON CENTRE or doctor if you feel unwell. P314 Get medical advice/attention if you feel unwell. P330 Rinse mouth. 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 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.</p>
Storage statements:	<p>P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.</p>
Disposal statement:	<p>P501 Dispose of product and containers in accordance with local Regulations. See Section 13 for details.</p>
Additional Label Requirements:	<p>Do not apply directly into or onto water. Take all reasonable steps to ensure that UNYUNOX® 250 EC Selective Herbicide does not cause any significant adverse effects to the environment beyond the application area.</p>

Section 3: Composition/information on ingredients

Chemical identity of ingredients with health or environmental hazards:

Ingredients:	CAS Number:	Concentration (%):
Ioxynil 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%		

Section 4: First-aid measures

First aid measures:	If medical advice is needed, have product container or label at hand. For advice contact National Poisons Centre 0800 POISON [0800 764 766] or a doctor.
Ingestion:	Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTRE or doctor.
Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTRE or doctor.
Skin contact:	Wash area with plenty of water. Wash contaminated clothing before reuse. Call a POISON CENTRE or doctor for advice.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor.
First aid facilities:	Provide eye baths and safety showers close to areas where product contact or splashing may occur.
Advice to doctor:	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. 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.	
Section 5: Fire-fighting measures	
Flammability:	Liquid/vapours are combustible.
Appropriate extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Hazardous decomposition products:	Irritant and toxic fumes may be generated. 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 fire-fighters:	In the event of fire, wear self-contained breathing apparatus. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Prevent run-off from contaminating drains, sewers or waterways. Inform appropriate authorities immediately if product or run-off enters waterways.
HAZCHEM code:	•3Z
Section 6: Accidental release measures	
Personal precautions:	Extinguish or remove all sources of ignition. Wear protective equipment, chemical resistant coveralls, boots, gloves, eye protection. Do not touch or walk through spilled material. Stop leak when safe to do so. Exclude all bystanders from the vicinity.
Environmental precautions:	Contain spill. Prevent product entering drains or waterways by activating emergency shut-off valves or using bunding. Inform appropriate authorities immediately if spill enters sewers or waterways. Prevent chemical contaminating soil.
Procedure for clean up:	Isolate sources of ignition. Contain and recover liquid into a suitable labelled container for disposal. Absorb residue. For small spills use suitable inert material, e.g. sand, vermiculite. Do NOT use combustible materials such as sawdust. Wash contaminated area with water, absorb and put in container for disposal. Dispose of contaminated waste at an approved facility.
Section 7: Handling and storage	
Safe handling:	Read label before use. Keep away from heat and open flames. Wear personal protective equipment. Do not eat, drink or smoke while handling or using. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges. To be used only in compliance with HSNO Controls.
Safe storage:	Keep out of 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.

Storage must be in accordance with the current version NZS 8409 Management of Agrichemicals.

Section 8: Exposure controls/personal protection

Occupational exposure limits:	<table border="1"> <thead> <tr> <th><i>Ingredient</i></th> <th><i>CAS No.</i></th> <th><i>WES-TWA</i></th> <th><i>WES-STEL</i></th> </tr> </thead> <tbody> <tr> <td>Naphthalene</td> <td>91-20-3</td> <td>0.5 ppm (2.6 mg/m³)</td> <td>2 ppm (10 mg/m³)</td> </tr> </tbody> </table>	<i>Ingredient</i>	<i>CAS No.</i>	<i>WES-TWA</i>	<i>WES-STEL</i>	Naphthalene	91-20-3	0.5 ppm (2.6 mg/m ³)	2 ppm (10 mg/m ³)
<i>Ingredient</i>	<i>CAS No.</i>	<i>WES-TWA</i>	<i>WES-STEL</i>						
Naphthalene	91-20-3	0.5 ppm (2.6 mg/m ³)	2 ppm (10 mg/m ³)						
Biological limit value:	None set as of WorkSafe's 14 th edition of WES and BEI values, published November 2023.								
Engineering controls:	Control process conditions to avoid contact. Use only in well-ventilated areas or outdoors. If necessary, use local exhaust ventilation to keep airborne concentration below the exposure limits.								
Respiratory protection:	Wear half or full mask fitted with gas/vapour filter when mixing or applying.								
Hand protection:	Elbow length, chemical resistant gloves, e.g. nitrile.								
Eye protection:	Face shield.								
Skin protection:	Overalls and chemical resistant boots/footwear. Disposable overalls recommended.								
General hygiene:	Do not eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before rest breaks, meals and after work. Wash protective clothing daily after work.								
Personal protection equipment:	Further information on specific types of personal protective gear and related standards is available in Section 16.								

Section 9: Physical and chemical properties

(a) Appearance:	Clear yellow to brown liquid.
(b) Odour:	Characteristic of aromatic hydrocarbons.
(c) Odour threshold:	Not available.
(d) pH:	Not available.
(e) Melting point/freezing point:	Not applicable.
(f) Initial boiling point and boiling range:	Not determined.
(g) Flash point:	66°C
(h) Flammability (solid, gas):	Not applicable.
(i) Upper/lower flammability or explosive limits:	Not available.
(j) Vapour pressure:	Not available.
(k) Vapour density:	ca. 1.07 g/cm ³ at 20°C
(l) Relative density:	Not available.

(m)	Solubility:	Not available.
(n)	Partition coefficient:n-octanol/water:	loxynil octanoate: log Pow: 6.0
(o)	Auto-ignition temperature:	Not available.
(p)	Decomposition temperature:	Not available.
(q)	Kinematic viscosity:	Not applicable.
(r)	Particle characteristics:	Not applicable.

Section 10: Stability and reactivity

Stability of the substance:	Stable under normal conditions. Product is unlikely to react or decompose under normal conditions of storage and use. If you have any doubts, contact the supplier for advice on shelf-life properties.
Conditions to avoid:	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible materials:	Bases, Strong oxidising agents, Strong reducing agents.
Hazardous decomposition products:	Thermal decomposition can lead to release of: Nitrogen oxides (NO _x), Carbon oxides, Iodine compounds.

Section 11: Toxicological information

a)	Acute oral toxicity:	LD50 (Rat) 602 mg/kg
b)	Acute inhalation toxicity:	LC50 (Rat) >3 mg/L Exposure time: 6 h The value mentioned relates to the active ingredient ioxynil.
c)	Acute dermal toxicity:	LD50 (Rat) >2,000 mg/kg
d)	Skin corrosion/irritation:	Slight irritation (Rabbit)
e)	Serious eye Damage/Irritation:	Irritating to eyes (Rabbit)
f)	Respiratory or Skin sensitisation:	Sensitising (Guinea pig)
g)	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.
h)	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.
i) 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.
j) 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.
k) Specific target organ toxicity:	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.
l) Other adverse effects:	No further toxicological information is available.
m) Toxicological information for product:	-

Section 12: Ecological information

	Ecotoxicological classifications determined by assessment of the active ingredient.
(a) Aquatic ecotoxicity:	LC50 (<i>Lepomis macrochirus</i> (Bluegill sunfish)) 0.024 mg/L Exposure time: 96 h EC50 (<i>Daphnia</i> (water flea)) 0.011 mg/L Exposure time: 48 h EC50 (<i>Navicula pelliculosa</i> (Freshwater diatom)) 0.24 mg/L Exposure time: 72 h
(b) Soil ecotoxicity:	Not available.
(c) Terrestrial vertebrate ecotoxicity:	LD50 (<i>Coturnix japonica</i> (Japanese quail)) 677 mg/kg LD50 (Pheasant) 1,000 mg/kg LD50 (<i>Anas platyrhynchos</i> (Mallard duck)) 1,200 mg/kg
(d) Terrestrial invertebrate ecotoxicity:	Not available.
(e) Persistence and degradability:	loxynil octanoate: Not rapidly biodegradable loxynil octanoate: Koc: 289
(f) Potential to be bioaccumulative:	loxynil octanoate: Bioconcentration factor (BCF) 188 Does not bioaccumulate.
(g) Mobility in soil:	loxynil octanoate: Moderately mobile in soils.

(h)	Ecotoxicological information for product.	No other information available.
Section 13: Disposal considerations		
Product disposal:	Dispose of this product only by using according to the label or through Agrecovery chemical disposal or similar approved service. Do not allow material to contaminate ground water system or surface water.	
Container disposal:	Triple rinse container and use residue in cleaning mixture. Recycle clean, empty container through Agrecovery if possible or crush and bury in an approved landfill. Do not use container for any other purpose. Avoid contamination of any water supply or stream with product or empty container.	
Section 14: Transport information		
UN number:	3082	
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IOXYNIL OCTANOATE, SOLVENT NAPHTHA (PETROLEUM) LIGHT AROMATIC SOLUTION)	
UN class:	9	
Packing group:	III	
HAZCHEM:	•3Z	
Marine pollutant:	Yes	
Special precautions:	Limited quantities, 5 L	
Section 15: Regulatory information		
HSNO Substance approval number:	Approved substance under the HSNO Act 1996. HSR000525	
Tolerable exposure limit / environmental exposure limit:	None set.	
HSNO controls:	See www.epa.govt.nz	
Additional controls:	Qualifications	Yes
	Tracking:	No
	Safety Data Sheet:	Any quantity
	Restricted to workplace only:	No
	Quantity that must be secured when unattended:	-
	Fire extinguishers	500 L 2 extinguishers
	Quantity for secondary containment and emergency response plan:	100 L
	Quantity for signage:	100 L
	Quantity for Location certificate	-
	Records of use (3 kg or more applied to area within 24 hours)	Yes

	Quantity that requires management in accordance with HSW HS Regulations Hazardous Substances (Packaging) Notice 2017; Clause 9	1000 L UN Pack Group III
Additional information:	Refer to WorkSafe for additional information on controls in the workplace; www.worksafe.govt.nz .	
ACVM:	Registered under the Agricultural Compounds Veterinary Medicines Act 1997.	
Registration number:	P9822	
Conditions of registration:	See www.foodsafety.govt.nz	
Section 16: Other information		
Date of issue:	17/7/2024	
Reason for reissue:	New SDS	
Replaces:	Not applicable	
Information references:	Supplier Safety Data Sheet NZ EPA Approved hazardous substances databases. Workplace Exposure Standards and Biological Exposure Indices	
Abbreviations:	ACVM: Agricultural Chemicals and Veterinary Medicines Group Bw: Bodyweight. HSNO: Hazardous substances and New Organisms Act 1996 (HSNO Act) EPA: Environmental Protection Authority of New Zealand CAS Number: Chemical Abstracts Service Number LD50: Lethal Dose 50% (Population) LC50: Lethal Concentration 50% (Population) WES-TWA: Workplace exposure standards – Time-weighted average WES-STEL: Workplace exposure standards – Short-term exposure limit	
Personal Protection Standards:	The following Standards provide general advice regarding safety clothing and equipment: Respiratory equipment: AS/NZS 1715 , Protective Gloves: AS 2161 , Occupational Protective Clothing: AS/NZS 4501 , Industrial Eye Protection: AS1336 and AS/NZS 1337 , Occupational Protective Footwear: AS/NZS2210	

The data provided in this safety data sheet is based on current knowledge and experience. The purpose of this document is to describe the product in terms of its safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.

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