SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER

Product name:	**UNLOCK POUR ON**
Product use:	Ectoparasiticide. For the control of lice, and for up to 14 weeks prevention of flystrike, on sheep
Supplier: **Address:**	AHD Ltd 1229 Maraekakaho Road Hastings 4175 New Zealand
Contact phone number:	(06) 873 3611
Emergency phone number:	Craig Elstob Director Agvet NZ Ltd 027 432 3953
National Poisons Centre: **Or** **CHEMCALL**	0800-764-766 0800-243-622
Poisons & Hazardous Chemical Information Centre (New Zealand)	(03) 4747 000
24 Hour Emergency Response Number (New Zealand)	0800 734 607
Police and Fire Brigade (New Zealand)	111
Issue date:	9 December 2024

SECTION 2: HAZARDS IDENTIFICATION

HSNO Approval number:	HSR100759 Veterinary Medicines (Non-dispersive Open System Application) Group Standard 2020
GHS Classification:	Eye irritation Category 2 Skin sensitisation Category 1 Specific target organ toxicity (repeated exposure) Category 2 Hazardous to the aquatic environment acute Category 1 Hazardous to the aquatic environment chronic Category 1
Signal word:	Warning
GHS Pictogram:	

Hazard statement:	H319: Causes serious eye irritation
	H317: May cause an allergic skin reaction
	H373: May cause damage to organs through prolonged or repeated exposure
	H400: Very toxic to aquatic life
	H410: Very toxic to aquatic life with long lasting effects.
Prevention statement:	P260: Do not breathe mist/vapours.
	P264: Wash hands thoroughly after handling.
	P272: Contaminated work clothing should not be allowed out of the workplace.
	P273: Avoid release to the environment.
	P280: Wear protective gloves/eye protection/face protection
Response statement:	P314: Get medical advice/attention if you feel unwell.
	P321: See first aid instruction on the product's label.
	P302 + P352: IF ON SKIN: Wash with plenty water.
	P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.
	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.
	P362 + P364: Take off contaminated clothing and wash it before reuse.
	P391: Collect spillage.
Disposal statement:	P501: Follow the label directions. Also see Section 13 (**DISPOSAL CONSIDERATIONS)**

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS number	Content
*Diflubenzuron	35367-38-5	2%
*Deltamethrin	52918-63-5	1%
Formalin+	50-00-0	<1%

*Active ingredient

+Confidential manufacturing information

SECTION 4: FIRST-AID MEASURES

General Information:	For advice call a National Poisons Centre (0800 POISON – 0800 764 766). Have this SDS and product label with you when you call. Get medical attention if you feel unwell
Inhalation:	If inhaled, Remove to fresh air. Get medical attention if symptoms persist.
Skin Contact:	Wash skin well with plenty water. Get medical attention if irritation persists.
Eye Contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion:	If swallowed, do NOT induce vomiting. Rinse mouth. Call a National Poisons Centre (0800 POISON – 0800 764 766), or doctor if you feel unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Fire and Explosion Hazards:	Non-flammable
Extinguishing Media:	Use extinguishing media suited to burning materials (i.e. Carbon dioxide, Dry chemical, Foam, Water fog).
Fire Fighting:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Flash point:	>100^{0}C
Auto ignition temperature:	No information available
Flammability Class:	No information available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Avoid contact with the skin and eyes. Wear protective gloves, eye and face protection.
Environmental Precautions:	Prevent spilled material from from entering water ways. Avoid release to the environment. Collect spillage.
Methods and Materials for Containment and Cleaning up:	**Small spills/leaks**: Clean up and absorb spills with inert material (i.e. sand, soil, hydrated lime or vermiculite) or another absorbent material (i.e. paper towel), and place in waste containers, labelled for disposal. Contain in a secure location until disposal method is established. Dispose of waste safely. Avoid release to the environment. **Large spills/leaks**: Prevent spillage from entering drains or water ways and call emergency services.

SECTION 7: HANDLING AND STORAGE

Handling:	Read the storage/handling precautions on the product label. Do not breathe mist/vapours. Wash hands thoroughly after handling. Wear protective gloves, eye and face protection Contaminated work clothing should not be allowed out of the workplace.
Certified handler:	Not applicable
Tracking:	Not applicable
Storage:	Store below 30°C away from direct sunlight, in the original container, tightly closed in a safe place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits:	No information available
Engineering Controls:	Use in a well-ventilated area or other engineering controls to keep airborne levels below recommended exposure limits. Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly after handling.
Ventilation:	Use in a well-ventilated area.
Eye Protection:	Prevent eye contact, use safety goggles. Maintain eye wash facilities in work areas.
Skin Protection:	Prevent skin contact, wear appropriate protective gloves when handling this product.
Protective Material Types:	Protective clothing be made from rubber or PVC.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Aqueous liquid
Odour:	No information available
Odour threshhold:	No information available
pH:	6.0-7.5
Melting point/freezing point:	No information available
Initial boiling point and boiling range:	99^0C
Flash point:	>100^0C
Flammability:	No information available
Upper/lower flammability or explosive limits:	No information available
Vapour pressure:	Low
Vapour density:	No information available
Relative density:	0.99-1.02
Solubility (ies):	Solubility in water: Disperses
Partition coefficient: n-octanol/water:	No information available
Auto-ignition temperature:	No information available
Decomposition temperature:	No information available
Kinematic viscosity:	1400-2200 Mpa.s

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Non-reactive under normal conditions.
Conditions to avoid	Store below 30°C away from direct sunlight, in the original container, tightly closed in a safe place.
Incompatibilities:	No information available
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity:

Deltamethrin (active ingredient):
Acute Tox. 2
(Oral)
H300: Fatal if swallowed.
Classification key study:
Dose Descriptor: LD50
Value: 31 mg/kg bw
Oral Route
Species: Rat (F)
Endpoint: LD50
Value: 31 mg/kg
Reference source: [WHO; Environmental Health Criteria 97: Deltamethrin p.61 (1990)]**PEER REVIEWED** [HSDB]
Remark: Administered in peanut oil.
Acute Tox. 3
(Dermal)
H311: Toxic in contact with skin.
Classification key study:
Dose Descriptor: LD50
Value: 700 mg/kg bw
Dermal Route
Species: Rat
Endpoint: LD50
Value: 700 mg/kg
Reference source: [WHO; Environmental Health Criteria 97: Deltamethrin p.61 (1990)]**PEER REVIEWED** [HSDB]
Acute Tox. 3
(Inhalation)
Classification description:
H331: Toxic if inhaled.
Classification key study:
Physical Form: inhalation: dust / mist
Dose Descriptor: LC50
Value: 0.79 mg/L air
Inhalation Route
Species: Rat
Endpoint: LC50
Value: 790 mg/m3 (= 0.79 mg/l)
Reference source: (Pesticide residues in food 2000 : DELTAMETHRIN. JMPR) [INCHEM]
R-Phrase: R 23 Toxic by inhalation. [NCLASS]

Skin corrosion/irritation:

No information available

Serious eye damage/ irritation:

Diflubenzuron (active ingredient):
Eye Irrit. 2
H319: Causes serious eye irritation
Classification key study:
Eye Irritation
Species: Rabbit
Result: Irritant
Reference source: [REDS]

Deltamethrin (active ingredient):
Classification key study:
Skin Irritation
Species:
Result: The substance is irritating to the eyes, the skin and the respiratory tract.
Reference source: (Deltamethrin ICSC: 0247 Date of peer-review: March 2001) [INCHEM]
Eye Irritation
Species:
Result: The substance is irritating to the eyes, the skin and the respiratory tract.
Reference source: (Deltamethrin ICSC: 0247 Date of peer-review: March 2001) [INCHEM]

Respiratory or skin sensitisation:	No information available
Germ cell mutagenicity:	No information available
Carcinogenicity:	No information available
Reproductive toxicity:	No information available
Specific target organ toxicity – single exposure:	No information available
Specific target organ toxicity – repeated exposure:	**Diflubenzuron (active ingredient):** **STOT Rep.Exp. 2** H373: May cause damage to organs through prolonged or repeated exposure. Classification key study: Repeated dose toxicity **Oral Route** Primary Organ Effected: Blood and the Hematopoietic system In a 13-week feeding study technical grade diflubenzuron was administered in the diet to beagle dogs at dose levels of 0 (control), 10, 20, 40 or 160 ppm (equal to 0, 0.42, 0.84, 1.64 or 6.24 mg/kg/day). Ophthalmoscopic examinations were negative. Methemoglobinemia was observed in the dogs at 6.24 mg/kg/day (after 6 weeks). No gross necropsy, organ weight or histopathological changes were reported at any level that could be related to treatment. The NOEL is 1.64 mg/kg/day. The LEL is 6.24 mg/kg/day, based on increased methemoglobinemia. (MRID 00038706) [REDS] **Deltamethrin (active ingredient):** **STOT Rep.Exp. 1** H372: Causes damage to organs through prolonged or repeated exposure. Classification key study: Repeated dose toxicity **Oral Route** Primary Organ Effected: Neurotoxicity (nervous system) **Inhalation Route** Primary Organ Effected: Neurotoxicity (nervous system) Studies of repeated administration by inhalation, orally, and dermally to mice, rats, rabbits, guinea-pigs, and dogs showed that deltamethrin induces mainly agitation, hypersensitivity, impaired locomotor activity, and reduced body-weight gain. The NOAEC was 9.6 mg/m3 (equivalent to 2.6 mg/kg bw) in a 3-week study in rats in which the LOAEC was 56 mg/m3. (Pesticide residues in food 2000 : DELTAMETHRIN. JMPR) [INCHEM]
Aspiration hazard:	No information available

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity-Aquatic:

Diflubenzuron (active ingredient):
Aquatic Acute 1

H400: Very toxic to aquatic life.

Classification key study:
Fish
Dose Descriptor: LC50
Effect concentration: 57 mg/L
Species: Cutthroat trout (*Oncorhynchus clarki*)
Type of exposure:
Duration: 96 hr
Endpoint: LC50
Value: 57ppm (= 57 mg/l)
Reference source: [EPA PESTICIDES DB]
Aquatic Invertebrates
Dose Descriptor: LC50
Effect concentration: 0.0037 mg/L
Species: *Daphnia magna*
Type of exposure:
Duration: 48 hr
Endpoint: LC50
Value: 3.7ppb (= 0.0037 mg/l)
Reference source: [REDS]

Freshwater Algae and Cyanobacteria
Acute Endpoint: 96hr EC50
Acute Value: >0.3 mg/L

Aquatic Chronic 1

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

Classification key study:

Freshwater Algae and Cyanobacteria
Acute Endpoint: 96hr EC50
Acute Value: >0.3 mg/L

Deltamethrin (active ingredient):
Aquatic Acute 1

H400: Very toxic to aquatic life.

Fish
Dose Descriptor: LC50
Effect concentration: 0.00025 mg/L
Acute
Species: *Oncorhynchus mykiss* Rainbow trout, donaldson trout
Type of exposure: Flow through
Duration: 96 hr
Endpoint: LC50
Value: 0.25 ppb (= 0.00025 mg/l)
Reference source: Ref No: 344. Office of Pesticide Programs (2000) Environmental Effects Database (EEDB) Environmental Fate and Effects Division, U.S.EPA, Washington, D.C. [ECOTOX]
Chronic
Species: Fathead minnow (*Pimephales promelas*)
Type of exposure:
Duration: 280 day
Endpoint: NOEC
Value: 0.017 ppb (= 0.000017 mg/l) Reference source: [USEPA PEST]

Aquatic Invertebrates
Dose Descriptor: LC50
Effect concentration: 0.0000017 mg/L
Acute
Species: *Mysid*
Type of exposure:
Duration: 96 hr
Endpoint: LC50
Value: 0.0017 ppb (= 0.0000017 mg/l)
Reference source: [USEPA OPP tox db]
Chronic
Species: Water flea (*Daphnia magna*)
Type of exposure:
Duration: 21 day
Endpoint: NOEL
Value: 0.0041 ppb (= 0.0000041 mg/l)
Reference source: [USEPA PEST]
Freshwater Algae and Cyanobacteria

Aquatic Chronic 1

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

Fish
Dose Descriptor: NOEC
Effect concentration: 0.000017 mg/L

Acute
Species: *Oncorhynchus mykiss* Rainbow trout, donaldson trout
Type of exposure: Flow through
Duration: 96 hr
Endpoint: LC50
Value: 0.25 ppb (= 0.00025 mg/l)
Reference source: Ref No: 344. Office of Pesticide Programs (2000) Environmental Effects Database (EEDB) Environmental Fate and Effects Division, U.S.EPA, Washington, D.C. [ECOTOX]

Chronic
Species: Fathead minnow (*Pimephales promelas*)
Type of exposure:
Duration: 280 day
Endpoint: NOEC
Value: 0.017 ppb (= 0.000017 mg/l)
Reference source: [USEPA PEST]

Aquatic Invertebrates
Endpoint: NOEL
Value: 0.0000041 mg/L

Acute
Species: *Mysid*
Type of exposure:
Duration: 96 hr
Endpoint: LC50
Value: 0.0017 ppb (= 0.0000017 mg/l)
Reference source: [USEPA OPP tox db]

Chronic
Species: Water flea (*Daphnia magna*)
Type of exposure:
Duration: 21 day
Endpoint: NOEL
Value: 0.0041 ppb (= 0.0000041 mg/l)
Reference source: [USEPA PEST]
Freshwater Algae and Cyanobacteria

Ecotoxicity-Terrestrial:

Deltamethrin (active ingredient):

Hazardous to terrestrial vertebrates

Hazardous to terrestrial invertebrates

Persistence and degradability:

Diflubenzuron (active ingredient):

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.
Classification key study:

Biodegradation in water: not biodegradable

Deltamethrin (active ingredient):

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.
Classification key study:
Bioaccumulation
BCF (aquatic species): 1300 dimensionless
Bioaccumulative: Yes
In a static system for a 24-hr exposure period, deltamethrin BCFs of about 200 to 1300 were measured for Daphnia magnus(1); observed BCFs decreased with increases in dissolved organic carbon(1). BCF values of 39-303 were measured in larvae of the midge Chronomus tentans in sand, silt or clay sediment water systems(2). In a pond study using radio-labelled C-14 deltamethrin, fathead minnows (Pimephales promelas) accumulated levels of extractable radioactivity 248-907 times higher than levels in the water at 24-hr after exposure although the nature of the radioactive compounds was not provided(3). According to a classification scheme (4), these BCF values suggest that the potential for bioconcentration in aquatic organisms is high (SRC). [(1) Day KE; Environ Toxicol Chem 10: 91-101 (1991) (2) Muir DCG et al; Environ Toxicol Chem 4: 51-61 (1985) (3) Muir DCG et al; J Agric Food Chem 33: 603-9 (1985) (4) Franke C et al; Chemosphere 29: 1501-14 (1994)]**PEER REVIEWED**
[HSDB]
Biodegradation in water: not biodegradable

The potential to be bioaccumulative:	**Diflubenzuron (active ingredient):** H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects. Classification key study: Bioaccumulation BCF (aquatic species): 360 dimensionless Bioaccumulative: No **Deltamethrin (active ingredient):** H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects. Classification key study: Bioaccumulation BCF (aquatic species): 1300 dimensionless Bioaccumulative: Yes In a static system for a 24-hr exposure period, deltamethrin BCFs of about 200 to 1300 were measured for Daphnia magnus(1); observed BCFs decreased with increases in dissolved organic carbon(1). BCF values of 39-303 were measured in larvae of the midge Chronomus tentans in sand, silt or clay sediment water systems (2). In a pond study using radio-labelled C-14 deltamethrin, fathead minnows (Pimephales promelas) accumulated levels of extractable radioactivity 248-907 times higher than levels in the water at 24-hr after exposure although the nature of the radioactive compounds was not provided(3). According to a classification scheme (4), these BCF values suggest that the potential for bioconcentration in aquatic organisms is high (SRC). [(1) Day KE; Environ Toxicol Chem 10: 91-101 (1991) (2) Muir DCG et al; Environ Toxicol Chem 4: 51-61 (1985) (3) Muir DCG et al; J Agric Food Chem 33: 603-9 (1985) (4) Franke C et al; Chemosphere 29: 1501-14 (1994)]**PEER REVIEWED** [HSDB] Biodegradation in water: not biodegradable
Mobility in soil:	**Deltamethrin (active ingredient):** Hazardous to soil organisms
Other adverse effects:	No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal:	Preferably dispose of product by use. Otherwise dispose of product, packaging and waste at an approved landfill or other approved facility.

SECTION 14: TRANSPORT INFORMATION

UN Number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Diflubenzuron, Deltamethrin)
UN dangerous goods class and subsidiary risk:	9
UN Packaging Group:	III
Environmental hazards:	Marine pollutant

Special precautions when transporting the substance:	In transport emergency call 111, Police or Fire Brigade. For 24hr specialist advice in an emergency only call 0800 CHEMCALL (0800 243 622). If additional safety information is required, refer to the Safety Data Sheet.
Transport of Dangerous Goods Pictogram	

SECTION 15: REGULATORY INFORMATION

HSNO Approval number:	HSR100759 Veterinary Medicines (Non-dispersive Open System Application) Group Standard 2020
ACVM registration number:	A011630

SECTION 16: OTHER INFORMATION

Abbreviations:

CAS number:	Chemical Abstracts Service Registry Number
ACVM:	Agricultural Compounds and Veterinary Medicines
GHS:	Globally Harmonized System
HSNO:	Hazardous Substances & New Organisms Act
UN Number:	United Nations Number
EPA:	Environmental Protection Authority
LD50:	Lethal Dose, 50 percent
LC50:	Lethal Concentration, 50 percent
EC50:	Effective-Concentration
STOT	Specific Target Organ Toxicity
NOEL:	No-Observed Effect Level
NOEC:	No-Observed Effect Concentration
NOAEL:	No Observed Adverse Effect Level

Disclaimer:

The Safety Data Sheet has been developed according to EPA New Zealand guidelines.
The data, information and recommendations herein ("information") are represented in good faith and believed to be correct as of the date hereof.
The purpose of this Safety Data Sheet is to describe product in terms of their safety requirements.
Agvet NZ Ltd makes no representation of merchantability, fitness for a particular purpose or application, or of any other nature with respect to the information or the product to which the information refers ("the product").
The information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use of the product.
The physical data shown herein are typical values based on material tested. These values should not be construed as a guaranteed analysis of any specific lot or as guaranteed specification for the product or specific lots thereof.
Due care should be taken to make sure that the use or disposal of this product is in compliance with relevant Government and Local Government regulations