

## Section 1. Identification

**Product identifier** : Acatak® Duostar Tick Development Inhibitor and Broad Spectrum Pour-On  
**Product code** : 124000000023  
**Other means of identification** : AH2112

### Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : Veterinary product.  
**Uses advised against** : Not available.

**Company Name** : Elanco Australasia Pty Ltd  
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## Section 2. Hazard(s) identification

**Classification of the substance or mixture** : SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A  
REPRODUCTIVE TOXICITY - Category 1  
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1  
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1  
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 48.8%

### GHS label elements

**Hazard pictograms** : 

**Signal word** : DANGER  
**Hazard statements** : H319 - Causes serious eye irritation.  
H360 - May damage fertility or the unborn child.  
H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** : P201 - Obtain special instructions before use.  
P281 - Use personal protective equipment as required.  
P280 - Wear eye or face protection.  
P273 - Avoid release to the environment.  
P264 - Wash thoroughly after handling.  
**Response** : P391 - Collect spillage.  
P308 + P313 - IF exposed or concerned: Get medical advice or 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 or attention.

## Section 2. Hazard(s) identification

- Storage** : P405 - Store locked up.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Not applicable.
- Other hazards which do not result in classification** : None known.

## Section 3. Composition and ingredient information

**Substance/mixture** : Mixture

Ingredient name	% (w/w)	CAS number
benzyl benzoate	≥10 - ≤30	120-51-4
2-(2-butoxyethoxy)ethanol	≥10 - ≤30	112-34-5
2-Pyrrolidinone, 1-methyl-FLUAZURON	<10	872-50-4
benzyl alcohol	≤3	86811-58-7
Ivermectin	≤1.4	100-51-6
2,6-di-tert-butyl-p-cresol	<1	70288-86-7
	≤0.3	128-37-0

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.

## Section 4. First aid measures

**Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
halogenated compounds

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Hazchem code** : 3Z

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls and personal protection

### [Control parameters](#)

#### [Occupational exposure limits](#)

Ingredient name	Exposure limits
2-(2-butoxyethoxy)ethanol	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b>            TWA: 10 ppm 8 hours.            TWA: 67.5 mg/m<sup>3</sup> 8 hours.            STEL: 15 ppm 15 minutes.            STEL: 101.2 mg/m<sup>3</sup> 15 minutes.</p> <p><b>DFG MAC-values list (Germany, 7/2019).</b>            TWA: 67 mg/m<sup>3</sup> 8 hours.            PEAK: 100.5 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.            TWA: 10 ppm 8 hours.            PEAK: 15 ppm, 4 times per shift, 15 minutes.</p>
2-Pyrrolidinone, 1-methyl-	<p><b>Safe Work Australia (Australia, 12/2019). Absorbed through skin.</b>            TWA: 25 ppm 8 hours.            TWA: 103 mg/m<sup>3</sup> 8 hours.            STEL: 75 ppm 15 minutes.            STEL: 309 mg/m<sup>3</sup> 15 minutes.</p> <p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b>            STEL: 80 mg/m<sup>3</sup> 15 minutes.            STEL: 20 ppm 15 minutes.            TWA: 40 mg/m<sup>3</sup> 8 hours.            TWA: 10 ppm 8 hours.</p> <p><b>DFG MAC-values list (Germany, 7/2019). Absorbed through skin.</b>            TWA: 20 ppm 8 hours.            PEAK: 40 ppm, 4 times per shift, 15 minutes.            TWA: 82 mg/m<sup>3</sup> 8 hours.            PEAK: 164 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.</p>
benzyl alcohol	<p><b>DFG MAC-values list (Germany, 7/2019). Absorbed through skin.</b>            PEAK: 44 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.            PEAK: 10 ppm, 4 times per shift, 15 minutes.            TWA: 22 mg/m<sup>3</sup> 8 hours.            TWA: 5 ppm 8 hours.</p>
2,6-di-tert-butyl-p-cresol	<p><b>Safe Work Australia (Australia, 12/2019).</b>            TWA: 10 mg/m<sup>3</sup> 8 hours.</p> <p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b>            TWA: 10 mg/m<sup>3</sup> 8 hours.</p> <p><b>DFG MAC-values list (Germany, 7/2019).</b>            TWA: 10 mg/m<sup>3</sup> 8 hours. Form: inhalable fraction            PEAK: 40 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. Form: inhalable fraction</p>

### [Appropriate engineering controls](#)

: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### [Environmental exposure controls](#)

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### [Individual protection measures](#)

## Section 8. Exposure controls and personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Closed cup: 97.5°C (207.5°F)
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapour pressure** :

## Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
N-methyl-2-pyrrolidone	0.24	0.032				
benzyl alcohol	0.05	0.0067				
2-(2-butoxyethoxy) ethanol	0.02	0.0027				
2,6-di-tert-butyl-p-cresol	0.01	0.0013				
benzyl benzoate	0	0				

**Relative vapour density** : Not available.

**Relative density** : Not available.

**Solubility** : Not available.

**Solubility in water** : Not available.

**Partition coefficient: n-octanol/water** : Not applicable.

**Auto-ignition temperature** :

Ingredient name	°C	°F	Method
2-(2-butoxyethoxy)ethanol	210	410	DIN 51794
N-methyl-2-pyrrolidone	245	473	
benzyl alcohol	436	816.8	
Soybean oil	444.85	832.7	
benzyl benzoate	480	896	

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

**Flow time (ISO 2431)** : Not available.

### Particle characteristics

**Median particle size** : Not applicable.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.



# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl benzoate	LD50 Dermal	Rabbit	4 g/kg	-
	LD50 Oral	Rat	1700 mg/kg	-
2-(2-butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
2-Pyrrolidinone, 1-methyl-	LC50 Inhalation Dusts and mists	Rat	>5.1 mg/l	4 hours
	LD50 Dermal	Rabbit	8 g/kg	-
FLUAZURON	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	3914 mg/kg	-
	LC50 Inhalation Vapour	Rat	>5994 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
benzyl alcohol	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m <sup>3</sup>	4 hours
Ivermectin	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1230 mg/kg	-
2,6-di-tert-butyl-p-cresol	LD50 Dermal	Rabbit	406 mg/kg	-
	LD50 Oral	Rat	2 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	890 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-(2-butoxyethoxy)ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
2-Pyrrolidinone, 1-methyl-	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Irritant	Rabbit	-	-	-
benzyl alcohol	Skin - Mild irritant	Man	-	48 hours 16 mg	-
	Skin - Moderate irritant	Pig	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-
2,6-di-tert-butyl-p-cresol	Eyes - Irritant	Rabbit	-	-	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Human	-	48 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	48 hours 500 mg	-
	Eyes - Mild irritant	Rabbit	-	-	-

### Sensitisation

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)



## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
2-Pyrrolidinone, 1-methyl-	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Ivermectin	Category 1	-	nervous system

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.

## Section 11. Toxicological information

**Reproductive toxicity** : May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Acatak® Duostar Tick Development Inhibitor and Broad Spectrum Pour-On	2867.6	102500	N/A	N/A	91.5
benzyl benzoate	1700	4000	N/A	N/A	N/A
2-(2-butoxyethoxy)ethanol	4500	2700	N/A	N/A	N/A
2-Pyrrolidinone, 1-methyl-	3914	N/A	N/A	N/A	N/A
benzyl alcohol	1230	2000	N/A	N/A	1.5
Ivermectin	5	406	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
benzyl benzoate	Acute EC50 0.311 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute EC50 3.09 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 1.4 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute NOEC 0.065 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours
2-(2-butoxyethoxy)ethanol	Chronic NOEC 0.258 mg/l	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.168 mg/l	Fish	32 days
	Acute EC50 >100 mg/l	Algae	96 hours
	Acute EC50 >100 mg/l	Daphnia	48 hours
2-Pyrrolidinone, 1-methyl-	Acute LC50 1300000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic NOEC >100 mg/l	Algae	96 hours
	Chronic NOEC >100 mg/l	Daphnia	48 hours
	Acute EC50 600.5 mg/l	Algae	72 hours
FLUAZURON	Acute LC50 1.23 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 832 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic NOEC 12.5 mg/l	Daphnia - Daphnia magna	21 days
	Acute EC50 0.0006 mg/l	Daphnia	48 hours
benzyl alcohol	Acute LC50 9.1 mg/l	Fish - Cyprinus carpio	96 hours
	Acute EC50 230 mg/l	Daphnia - Daphnia magna	48 hours
Ivermectin	Acute LC50 10000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 0.026 µg/l Marine water	Crustaceans - Neomysis integer	48 hours
	Acute LC50 1.2 ng/L Fresh water	Daphnia - Daphnia magna - Young	48 hours
	Acute LC50 17.21 µg/l Fresh water	Fish - Danio rerio - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
2,6-di-tert-butyl-p-cresol	Chronic NOEC 391 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Chronic NOEC 0.0003 ng/L Fresh water	Daphnia - Daphnia magna - Young	21 days
	EC10 0.4 mg/l	Algae - Desmodesmus subspicatus	72 hours
	EC50 >0.4 mg/l	Algae - Desmodesmus subsipactus	72 hours
	Acute EC50 0.758 mg/l	Algae	96 hours
	Acute EC50 0.48 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.199 mg/l	Fish	96 hours
	Chronic NOEC 0.15 mg/l	Crustaceans	48 hours

## Section 12. Ecological information

Chronic NOEC 0.069 mg/l	Daphnia - Daphnia magna	21 days
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### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2,6-di-tert-butyl-p-cresol	OECD 301C Ready Biodegradability - Modified MITI Test (I)	4.5 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,6-di-tert-butyl-p-cresol	-	-	Not readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
benzyl benzoate	3.97	-	low
2-(2-butoxyethoxy)ethanol	1	-	low
2-Pyrrolidinone, 1-methyl-	-0.46	-	low
FLUAZURON	5.1	-	high
benzyl alcohol	0.87	-	low
Ivermectin	3.22	-	low
2,6-di-tert-butyl-p-cresol	5.1	330 to 1800	high

### Mobility in soil

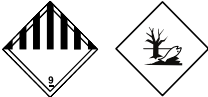
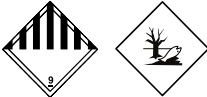
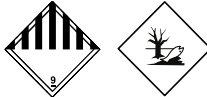
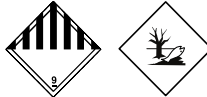
**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	ADG	ADR/RID	IMDG	IATA
<b>UN number</b>	UN3082	UN3082	UN3082	UN3082
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZURON, Ivermectin, benzyl benzoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZURON, Ivermectin, benzyl benzoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZURON, Ivermectin, benzyl benzoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZURON, Ivermectin, benzyl benzoate)
<b>Transport hazard class(es)</b>	9 	9 	9 	9 

## Section 14. Transport information

<b>Packing group</b>	III	III	III	III
<b>Environmental hazards</b>	Yes.	Yes.	Yes.	Yes.

### Additional information

- ADG** : The product is not regulated as a dangerous good when transported by road or rail in either an IBC, or in other container types if  $\leq 500$  kg. This product is not regulated as a dangerous good when transported in sizes of  $\leq 5$  L or  $\leq 5$  kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.  
**Hazchem code** 3Z
- ADR/RID** : This product is not regulated as a dangerous good when transported in sizes of  $\leq 5$  L or  $\leq 5$  kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- IMDG** : This product is not regulated as a dangerous good when transported in sizes of  $\leq 5$  L or  $\leq 5$  kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- IATA** : This product is not regulated as a dangerous good when transported in sizes of  $\leq 5$  L or  $\leq 5$  kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### National regulations

#### Standard for the Uniform Scheduling of Medicines and Poisons

5

#### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

**APVMA Approval Number** : 60494

### Inventory list

**Australia** : Not determined.

## Section 16. Any other relevant information

### History

**Date of issue/Date of revision** : 8/6/2022

**Date of previous issue** : 8/2/2022

**Version** : 0.04

### Key to abbreviations

ADG = Australian Dangerous Goods  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

## Section 16. Any other relevant information

N/A = Not available

SGG = Segregation Group

SUSMP = Standard Uniform Schedule of Medicine and Poisons

UN = United Nations

### Procedure used to derive the classification

Classification	Justification
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A	Calculation method
REPRODUCTIVE TOXICITY - Category 1	Calculation method
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1	Calculation method
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1	Calculation method

**References** : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

As of the date of issuance, we are providing available information relevant to the handling of this material in the workplace. All information contained herein is offered with the good faith belief that it is accurate. **THIS SAFETY DATA SHEET SHALL NOT BE DEEMED TO CREATE ANY WARRANTY OF ANY KIND (INCLUDING WARRANTY OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE).** In the event of an adverse incident associated with this material, this safety data sheet is not intended to be a substitute for consultation with appropriately trained personnel. Nor is this safety data sheet intended to be a substitute for product literature which may accompany the finished product.

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