

MATERIAL SAFETY DATA SHEET



Date of Issue: August 9, 2004

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name **Alsystin® 250 Larvicide**
Other names None
Product codes and pack sizes 4952943 (1 kg)
Chemical group Benzoylurea
Recommended use Larvicide for agricultural use
Formulation Wettable powder (WP)
Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022
Address 391 - 393 Tooronga Road, East Hawthorn
Victoria 3123, Australia
Telephone (03) 9248 6888
Facsimile (03) 9248 6800
Website www.bayercropscience.com.au
Contact Development Manager (03) 9248 6888
Emergency Telephone Number 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
NON-HAZARDOUS SUBSTANCE – NON-DANGEROUS GOOD
Dangerous to fish and aquatic organisms

Hazard classification Not Hazardous (National Occupational Health and Safety Commission - NOHSC)
Risk phrases None assigned
Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13
ADG classification Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (Class 9 in Europe)
SUSDP classification 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/kg)
Triflumuron	[64628-44-0]	250
Kaolin	[1332-58-7]	≈ 500
Silica, quartz (in kaolin)	[14808-60-7]	(variable)
Other ingredients, including emulsifiers, wetting and dispersing agents	(non hazardous)	≈ 250

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4. FIRST AID MEASURES

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

Inhalation	If inhaled remove to fresh air and keep at rest. Obtain medical advice.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if at all worried.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Keep patient at rest and seek medical advice as above.
First Aid Facilities	Ensure eyewash and shower facilities are available.
Medical attention	<i>Local contamination:</i> In case of skin or eye contamination, treat as above under First Aid Measures. <i>Systemic poisoning:</i> There is no specific antidote. Treat symptoms.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, carbon dioxide, foam, sand
Hazards from combustion products	In a fire, formation of hydrogen chloride, hydrogen cyanide, hydrogen fluoride, carbon monoxide and nitrogen oxides can be expected.
Precautions for fire fighters	This product is sensitive to dust explosion. Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later.
Hazchem code	Not applicable

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Extinguish possible sources of ignition. Do not smoke, eat or drink during the clean up process. Wear personal protective clothing and equipment as detailed in Section 8 PERSONAL PROTECTION. Keep people and animals away. Prevent spilled material from entering drains or watercourses. Avoid creation of dust, damping down if necessary. Sweep up and collect and store in properly labelled drums for safe disposal. Clean floor with a damp cloth and place it in the drum. Seal drums and label ready for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc. is unavoidable, warn the local water authority.

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7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Harmful if absorbed by skin contact or inhaled. Avoid contact with eyes and skin. Do not inhale dust. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves. Keep product away from heat and sources of ignition. Prevent formation of dust.
Storage	Store product in the closed original container in a dry, cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.
Flammability	This product is sensitive to dust explosion. Fine dust particles can form explosive mixtures with air.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards The National Occupational Health and Safety Commission (NOHSC) exposure standards: TWA for kaolin is 10 mg/m³ (as inspirable dust)
STEL for silica, quartz is 0.2 mg/m³.

Definitions:

Exposure standard – Time Weighted Average (TWA) means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

Exposure standard – Short Term Exposure limit (STEL) means a 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.

Biological limit values	None allocated
Engineering controls	Control process conditions to avoid contact. Use in a well-ventilated area only.
Personal Protective Equipment	Eyes: Safety goggles if exposure is possible Clothing: Cotton overalls buttoned to the neck and wrist and a washable hat Gloves: Elbow-length PVC gloves Respiratory: Wear a respirator if inhalation is possible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to light yellow powder
Odour:	Slight characteristic
pH:	7.0 to 9.0 (1% in water)
Vapour pressure:	4x10 ⁻⁹ hPa at 25° C (triflumuron)
Vapour density:	Not available
Boiling point:	Not applicable
Freezing/melting point:	Not available
Solubility:	Practically insoluble in water. Disperses in water.

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9. PHYSICAL AND CHEMICAL PROPERTIES - continued

Bulk density:	420 / 320 mL/100 g (loose / packed)
Flash Point:	Not applicable
Flammability (explosive) limits:	Not available. Dust explosivity from 200 g/m ³ .
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	<i>Triflumuron</i> : Log P _{ow} = 4.9 at 22° C

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Excessive heat, creation of dust, sources of ignition
Incompatible materials	Oxidising agents, alkaline materials
Hazardous decomposition products	In a fire, formation of hydrogen chloride, hydrogen cyanide, hydrogen fluoride, carbon monoxide and nitrogen oxides can be expected.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Harmful if inhaled. May cause respiratory irritation if inhaled.
Skin contact	Harmful if absorbed by the skin. May irritate the skin.
Eye contact	May irritate the eyes.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA - SIMILAR PRODUCT

Acute:	
Oral toxicity	LD ₅₀ rat: > 5000 mg/kg
Dermal toxicity	LD ₅₀ rat: > 5000 mg/kg
Inhalation toxicity	LC ₅₀ rat (4 hour): > 0.267 mg/L (aerosol) – <i>highest attainable concentration</i>
Skin irritation	Non irritating (rabbit)
Eye irritation	Slightly irritating (rabbit)
Sensitisation	Not a skin sensitizer (guinea pig) (<i>triflumuron</i>)

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11. TOXICOLOGICAL INFORMATION - continued

Chronic:

Triflumuron had no mutagenic activity in various *in vitro* and *in vivo* tests.

This product contains a small amount of crystalline silica, which is a naturally-occurring mineral component of many sands and clays. Excessive long-term exposure to respirable crystalline silica may cause lung damage. Crystalline silica is classified as a carcinogen.

12. ECOLOGICAL INFORMATION

Triflumuron is very toxic to aquatic organisms. Triflumuron is toxic to bees. Alsystin is incorporated into casing or compost in propagating mushrooms, so when used according to label directions should not put hives at risk. Alsystin is dangerous to non-target insects, fish, yabbies and other aquatic and soil arthropods. DO NOT contaminate streams, rivers, or waterways with the chemical or used containers.

Ecotoxicity

Triflumuron:

Fish toxicity: LC₅₀ (96 h) bluegill sunfish (*Lepomis macrochirus*) > 20.8 µg/L

LC₅₀ (96 h) rainbow trout (*Onchorhynchus mykiss*) > 24.2 µg/L

Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) 1.6 µg/L

Algal toxicity:

Growth rate: IC₅₀ (72 h) green algae (*Desmodesmus subspicatus*) > 0.025 mg/L

Bird toxicity:

Acute oral LD₅₀ bobwhite quail 561 mg/kg

Bacteria toxicity: EC₅₀ activated sludge > 10000 mg/L

Environmental fate, persistence and degradability, mobility

Triflumuron degrades fairly rapidly in soil.

Triflumuron bioconcentration factor (BCF): 612

13. DISPOSAL CONSIDERATIONS

Single rinse containers before disposal. Add rinsings to disposal pit. Do not dispose of undiluted chemicals on-site. Puncture and bury empty containers in a local authority landfill. If no landfill is available, bury containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor.

14. TRANSPORT INFORMATION

UN number	Not applicable
Proper shipping name	Not applicable
Class and Subsidiary Risk	Not applicable
Packing Group	Not applicable
EPG	Not applicable
Hazchem code	Not applicable
Marine Pollutant	No (Alsystin contains triflumuron. Triflumuron is classified as a Marine Pollutant "P" in Europe, but it is not on the IMDG list.) In Europe this product is a Class 9 ENVIRONMENTALLY HAZARDOUS SUBSTANCE.

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15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority approval number: 39247 See also Section 2.

16. OTHER INFORMATION

Trademark information Alsystin® is a Registered Trademark of Bayer.

Preparation information Replaces August 1, 2002 MSDS.
Reasons for revision: 16 heading format, Exposure standards, dust explosion hazard, Toxicity data, Ecological information

This MSDS 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 MSDS 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.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS