



Starycide® Insect Growth Regulator

Version 1 / AUS
102000017278

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Revision Date: 02.11.2016
Print Date: 02.11.2016

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name Starycide® Insect Growth Regulator
Product code (UVP) 79037848

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

Use Insecticide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer Cropscience Pty Ltd
ABN 87 000 226 022
Level 1, 8 Redfern Road
3123 Hawthorn East
Victoria
Australia

Telephone (03) 9248 6888

Telefax (03) 9248 6800

Responsible Department 1800 804 479 Technical Information Service

Website www.environmentalscience.bayer.com.au

1.4 Emergency telephone no.

Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to specific Australian legislation

No hazard label for supply/use required.

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Triflumuron 48g/l
Chemical nature Suspension concentrate (=flowable concentrate)(SC)



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Chemical Name	CAS-No.	Concentration [%]
Triflumuron	64628-44-0	4.29
1,2-Benzisothiazol-3(2H)-one	2634-33-5	0.05
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	0.10
Other ingredients (non-hazardous) to 100%		

SECTION 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 Safety Data Sheet to the doctor.

4.1 Description of first aid measures

Inhalation	Move the victim to fresh air and keep at rest. If symptoms persist, call a physician.
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.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation or redness persists, see an ophthalmologist.
Ingestion	Keep at rest. If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable Water spray, Foam, Dry powder, Carbon dioxide (CO₂), Sand

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen fluoride, Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NO_x)

5.3 Advice for firefighters

Special protective equipment for firefighters In the event of fire, wear self-contained breathing apparatus.



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Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Whenever possible, contain fire-fighting water by diking area with sand or earth.

Hazchem Code •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Use personal protective equipment. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke.

6.2 Environmental precautions Contain contaminated water and fire fighting water. Do not allow to get into surface water, drains and ground water.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Avoid dust formation. Clean with detergents. Avoid solvents.

6.4 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.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling No special precautions required.

Advice on protection against fire and explosion No special precautions required.

Hygiene measures After each day's use, wash gloves, face shield or goggles and contaminated clothing. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep out of the reach of children. Protect against moisture. Keep away from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed.

Advice on common storage Keep away from food, drink and animal feedingstuffs.



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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Triflumuron	64628-44-0	0.2 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls

- Respiratory protection** Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.
- Hand protection** 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, abrasion, and the contact time. Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed.
- Eye protection** Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
- Skin and body protection** Wear standard coveralls and Category 3 Type 6 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 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 following recommendations would apply.
- Engineering Controls**
- Advice on safe handling** No special precautions required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	suspension
Colour	light grey to brown
Odour	weak, characteristic
pH	6.0 - 8.0 at 100 % (23 °C)



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Density ca. 1.12 g/cm³ at 20 °C
Partition coefficient: n-octanol/water Triflumuron: log Pow: 4.9 at 22 °C

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Not applicable

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid Extremes of temperature and direct sunlight.

10.5 Incompatible materials No data available

10.6 Hazardous decomposition products Thermal decomposition can lead to release of:
Hydrogen chloride (HCl)
Hydrogen fluoride
Hydrogen cyanide (hydrocyanic acid)
Carbon monoxide
Nitrogen oxides (NO_x)

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity LD₅₀ (Rat) > 5,000 mg/kg
The value mentioned relates to the active ingredient triflumuron.

Acute dermal toxicity LD₅₀ (Rat) > 5,000 mg/kg
The value mentioned relates to the active ingredient triflumuron.

Skin irritation slight irritation (Rabbit)
The value mentioned relates to the active ingredient triflumuron.

Eye irritation No eye irritation (Rabbit)
The value mentioned relates to the active ingredient triflumuron.

Assessment mutagenicity

Triflumuron was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Triflumuron was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Triflumuron did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Triflumuron did not cause developmental toxicity in rats and rabbits.



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Assessment STOT Specific target organ toxicity – repeated exposure

Triflumuron did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard

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

Information on likely routes of exposure

May cause irritation.
May cause skin irritation.
May cause eye irritation.

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

Further information

No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) > 320 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient triflumuron.

LC50 (Leuciscus idus (Golden orfe)) > 100 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient triflumuron.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 0.23 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient triflumuron.

Toxicity to aquatic plants

EC50 (Scenedesmus quadricauda (Green algae)) > 25 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient triflumuron.

Toxicity to other organisms

LD50 (Colinus virginianus (Bobwhite quail)) 561 mg/kg



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The value mentioned relates to the active ingredient triflumuron.
(Apis mellifera (bees))
The value mentioned relates to the active ingredient triflumuron.
Toxic to bees.

12.2 Persistence and degradability

Biodegradability Triflumuron:
Not rapidly biodegradable

Koc Triflumuron: Koc: 8601

12.3 Bioaccumulative potential

Bioaccumulation Triflumuron: Bioconcentration factor (BCF) 612
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil Triflumuron: Immobile in soil

12.5 Other adverse effects

Additional ecological information No further ecological information is available.

SECTION 13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Dispose of rinsings in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots. 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 for appropriate disposal 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.

SECTION 14. TRANSPORT INFORMATION

ADG

UN number	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLUMURON SOLUTION)
Hazchem Code	•3Z

According to AU01, Environmentally Hazardous Substances in packagings, IBC or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

IMDG

UN number	3082
Transport hazard class(es)	9



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Subsidiary Risk	None
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLUMURON SOLUTION)

IATA

UN number	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLUMURON SOLUTION)

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 61251

SUSMP classification (Poison Schedule)

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 16. OTHER INFORMATION

Trademark information Starycide® is a registered trademark of the Bayer Group.

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.

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.

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
AU OEL	Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
CAS-Nr.	Chemical Abstracts Service number
CEILING	Ceiling Limit Value



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Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
OES BCS	OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
PEAK	PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SEN	Skin sensitiser
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL	STEL: Exposure standard - short term exposure limit (STEL): 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.
TWA	TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

END OF SDS