



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

Bayer CropScience Pty Ltd
Level 1, 8 Redfern Rd,
Hawthorn East, Vic 3123
Australia
www.environmentalscience.bayer.com.au

New Zealand Agent

Bayer New Zealand Ltd
3 Argus Place, Hillcrest, Auckland,
0627 New Zealand
Telephone: 0800 428 246
Facsimile: (09) 441 8645

1.4 Emergency telephone no.

Emergency telephone no. 0800 734 607 IXOM Operations Pty Ltd (24 hr)

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with New Zealand Regulation

Hazardous classification: Classified as hazardous according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Signal word Warning

HSNO classifications 6.3B, 6.4A, 6.5B, 6.9B (All), 6.9B (O), 9.1B (All), 9.1B (C), 9.4B.
Causes mild skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause damage to organs.
Harmful to aquatic life with long lasting effects.
Toxic to terrestrial invertebrates.

Pictograms





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.

Dangerous goods classification: "Not dangerous goods" for transport according to NZS 5433:1999, UN, IMDG or IATA - See Section 14.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Triflumuron 48 g/L Suspension concentrate (SC)

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-chlor-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

In case of poisoning by any exposure route contact the National Poisons and Hazardous Chemicals Information Centre, P.O. Box 913, Dunedin. Phone 0800 764 766, 0800 POISON 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, wear self-contained breathing apparatus.

5.3 Advice for firefighters

Special protective equipment for firefighters

In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

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

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

6.2 Environmental precautions

Contain contaminated water and firefighting- 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 specific 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

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

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

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 on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0.4 mm
Protective index	Class 6



Directive Protective gloves complying with EN 374.

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.

Engineering Controls

Advice on safe handling

No specific 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) (deionised water)
Density	ca. 1.12 g/cm ³ at 20 °C
Partition coefficient: n-octanol/water	Triflumuron: log Pow: 4.9 at 22 °C

9.2 Other information

Further safety related physical-chemical data are not known

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 reactions 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 monoxid
Nitrogen oxides (NOx)



SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 5000 mg/kg The value mentioned relates to the active ingredient triflumuron.
Acute inhalation toxicity	During intended and foreseen applications, no respirable aerosol is formed.
Acute dermal toxicity	LD50 (Rat) > 5000 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.

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

HSNO classifications

6.3B, 6.4A, 6.5B, 6.9B (All), 6.9B (O)

Causes mild skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause damage to organs.

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

The value mentioned relates to the active ingredient triflumuron.

(*Apis mellifera* (bees))

Toxic to bees.

The value mentioned relates to the active ingredient triflumuron.

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.

HSNO classifications

9.1B (All), 9.1B (C), 9.4B
Harmful to aquatic life with long lasting effects.
Toxic to terrestrial invertebrates.

SECTION 13. DISPOSAL CONSIDERATIONS

Metal drums and plastic containers:

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SECTION 14. TRANSPORT INFORMATION

ADG

UN-Number	3082
Class	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, 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
Class	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIFLUMURON SOLUTION)

IATA

UN-Number	3082
Transport hazard class(es)	9

Bayer

Safety Data Sheet

Starycide® Insect Growth Regulator



Version / NZ
102000017278

Revision Date 10.07.2017

Subsidiary Risk	None
Packaging group	III
Environmental Hazard mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIFLUMURON SOLUTION)

SECTION 15. REGULATORY INFORMATION

EPA approval number APPROVED PURSUANT TO THE HSNO ACT 1996, No. HSR008007
See www.epa.govt.nz for approval controls.

MPI Approved maintenance compound Insecticide Type B (All animal product except dairy)
www.foodsafety.govt.nz

AsureQuality assessed product H2359

See also Section 2.

SECTION 16. OTHER INFORMATION

Trademark information

Starycide® is a registered trademark of Bayer.

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
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

Bayer
Safety Data Sheet
Starycide® Insect Growth Regulator



Version / NZ
102000017278

Revision Date 10.07.2017

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	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	Internal Bayer CropScience "Occupational Exposure Standard"
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 notation: Absorption through the skin may be a significant source of exposure.
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	Time Weighted Average
UN	United Nations
WHO	World Health Organisation

END OF SDS