



**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 (CO<sub>2</sub>), 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 <sup>3</sup> (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 <sup>3</sup> 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**

<b>Acute oral toxicity</b>	LD50 (Rat) > 5000 mg/kg The value mentioned relates to the active ingredient triflumuron.
<b>Acute inhalation toxicity</b>	During intended and foreseen applications, no respirable aerosol is formed.
<b>Acute dermal toxicity</b>	LD50 (Rat) > 5000 mg/kg The value mentioned relates to the active ingredient triflumuron.
<b>Skin irritation</b>	Slight irritation (rabbit) The value mentioned relates to the active ingredient triflumuron.
<b>Eye irritation</b>	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](http://www.epa.govt.nz) for approval controls.

**MPI Approved maintenance compound** Insecticide Type B (All animal product except dairy)  
[www.foodsafety.govt.nz](http://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  
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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