

# SAFETY DATA SHEET



## PROTEUS

Version 1 / NZ  
102000011089

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Revision Date: 21.09.2017  
Print Date: 28.09.2017

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### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Trade name PROTEUS  
Product code (UVP) 06365108

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

Use Insecticide  
EPA-Nr. HSR007653

#### 1.3 Details of the supplier of the safety data sheet

Supplier Bayer New Zealand Limited  
3 Argus Place, Hillcrest  
Auckland 0627  
New Zealand  
Telephone 0800 428 246  
Telefax (09) 441 8645

#### 1.4 Emergency telephone no.

Emergency Number 0800 734 607 (24hr)  
Global Incident Response Hotline (24h) +1 (760) 476-3964 (Company 3E for Bayer AG, Crop Science Division)

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### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

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

6.1D  
H302 Harmful if swallowed.  
6.4A  
H320 Causes eye irritation.  
6.7B  
H351 Suspected of causing cancer.  
6.9B  
H373 May cause damage to organs through prolonged or repeated exposure.  
9.1A  
H410 Very toxic to aquatic life with long lasting effects.  
9.3B  
H432 Toxic to terrestrial vertebrates.

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9.4A  
H441 Very toxic to terrestrial invertebrates.

### 2.2 Label elements

#### Labelling in accordance with Hazardous Substances Identification Regulations 2001

Hazard label for supply/use required.



**Signal word:** Warning

#### Hazard statements

H302 Harmful if swallowed.  
H320 Causes eye irritation.  
H351 Suspected of causing cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.  
H432 Toxic to terrestrial vertebrates.  
H441 Very toxic to terrestrial invertebrates.

#### Precautionary statements

P102 Keep out of reach of children.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P391 Collect spillage.  
P501 Dispose of contents/container in accordance with local regulation.

### 2.3 Other hazards

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

#### Chemical nature

Oil dispersion (OD)  
Thiacloprid 150 g/l + Deltamethrin 20 g/l

#### Hazardous components

Name	CAS-No.	Conc. [%]
Thiacloprid	111988-49-9	14,7
Deltamethrin	52918-63-5	1,96
2-Ethylhexanol propylene ethyleneglycol ether	64366-70-7	> 1 – < 25
Dodecyl benzene sulphonate, calcium salt	26264-06-2	> 3 – < 10

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2-Ethylhexanole	104-76-7	> 1 – < 20
Alcohols, C12-C15- branched and linear, ethoxylated	106232-83-1	> 1 – < 5

### Further information

Thiacloprid	111988-49-9	M-Factor: 100 (acute), 100 (chronic)
Deltamethrin	52918-63-5	M-Factor: 1.000.000 (acute), 1.000.000 (chronic)

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

<b>General advice</b>	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
<b>Inhalation</b>	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
<b>Skin contact</b>	Immediately wash with plenty of soap and water for at least 15 minutes. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. In case of skin irritation, application of oils or lotions containing vitamin E may be considered. If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. Apply soothing eye drops, if needed anaesthetic eye drops. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Do not leave victim unattended. Call a physician or poison control center immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Local:, Skin and eye paraesthesia which may be severe, Usually transient with resolution within 24 hours, Skin, eye and mucous membrane irritation, Cough, Sneezing  Systemic:, discomfort in the chest, Tachycardia, Hypotension, Nausea, Abdominal pain, Diarrhoea, Vomiting, Blurred vision, Headache, Anorexia, Somnolence, Coma, Convulsions, Tremors, Prostration, Airway hyperreaction, Pulmonary oedema, Palpitation, Muscular fasciculation, Apathy, Dizziness
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### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Risks</b>	This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.
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**Treatment**

Systemic treatment: Initial treatment: symptomatic. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Keep respiratory tract clear. Oxygen or artificial respiration if needed. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Contraindication: atropine. Contraindication: derivatives of adrenaline. There is no specific antidote. Recovery is spontaneous and without sequelae.

In case of skin irritation, application of oils or lotions containing vitamin E may be considered.

Contact the National Poisons and Hazardous Chemicals Information center in Dunedin, PO Box 913, Dunedin. Phone 0800 POISON (0800 764 766).

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable** Water spray, Carbon dioxide (CO<sub>2</sub>), Foam, 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 cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides

### 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.

## 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.

**6.2 Environmental precautions** 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). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

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**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** Use only in area provided with appropriate exhaust ventilation.

**Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

### 7.2 Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Store bulk material and packed materials in a closed warehouse or under cover protected against direct sunlight and frost.

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

**Suitable materials** HDPE (high density polyethylene)  
Only IBC 1000 liter are recommended as bulk container for re-filling.  
Coex HDPE/PA

**7.3 Specific end use(s)** Refer to the label and/or leaflet.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Thiacloprid	111988-49-9	0,34 mg/m <sup>3</sup> (TWA)		OES BCS*
Deltamethrin	52918-63-5	0,02 mg/m <sup>3</sup> (TWA)		OES BCS*

\*OES BCS: Internal Bayer AG, Crop Science Division "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** If product is handled while not enclosed, and if contact may occur:  
Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent.  
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.

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### 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.

If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

### General protective measures

If product is handled while not enclosed, and if contact may occur: Complete suit protecting against chemicals

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Form	dispersion
Colour	white
Odour	weak, characteristic
pH	4,0 - 6,0 at 1 % (23 °C) (deionized water)
Flash point	> 100 °C
Auto-ignition temperature	400 °C
Density	ca. 1,02 g/cm <sup>3</sup> at 20 °C
Water solubility	dispersible
Partition coefficient: n-octanol/water	Thiacloprid: log Pow: 1,26 at 20 °C Deltamethrin: log Pow: 6,4 at 25 °C
Viscosity, dynamic	438,2 mPa.s at 20 °C Velocity gradient 20 /s 536,3 mPa.s at 40 °C Velocity gradient 20 /s
Surface tension	30 mN/m at 25 °C

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	Determined in the undiluted form.
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113
<b>9.2 Other information</b>	Further safety related physical-chemical data are not known.

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## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

**Thermal decomposition** Stable under normal conditions.

**10.2 Chemical stability** Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.

**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.

**10.5 Incompatible materials** Store only in the original container.

**10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute oral toxicity** LD50 (Rat) 1.000 mg/kg

**Acute inhalation toxicity** LC50 (Rat) > 2,484 mg/l  
Exposure time: 4 h  
Determined in the form of a respirable aerosol.  
Highest attainable concentration.

**Acute dermal toxicity** LD50 (Rat) > 4.000 mg/kg

**Skin irritation** No skin irritation (Rabbit)

**Eye irritation** Irritating to eyes. (Rabbit)

**Sensitisation** Non-sensitizing. (Guinea pig)  
OECD Test Guideline 406, Buehler test

### Assessment STOT Specific target organ toxicity – single exposure

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

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

### Assessment STOT Specific target organ toxicity – repeated exposure

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

Deltamethrin caused neurobehavioral effects and/or neuropathological changes in animal studies. The toxic effects of Deltamethrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.

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### Assessment mutagenicity

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

### Assessment carcinogenicity

Thiacloprid caused at high dose levels an increased incidence of tumours in rats in the following organ(s): uterus, Thyroid.  
Thiacloprid caused at high dose levels an increased incidence of tumours in mice in the following organ(s): ovaries. The tumours seen with Thiacloprid were caused through a non-genotoxic mechanism, which is not relevant at low doses. The mechanism that triggers tumours in rodents is not relevant for the low exposures encountered under normal use conditions.  
Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice.

### Assessment toxicity to reproduction

Thiacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. Thiacloprid caused difficulties in parturition in rats. The mechanism of action for this effect is not considered to be relevant to man.  
Deltamethrin did not cause reproductive toxicity in a two-generation study in rats.

### Assessment developmental toxicity

Thiacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Thiacloprid are related to maternal toxicity.  
Deltamethrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Deltamethrin are related to maternal toxicity.

### Aspiration hazard

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

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## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 0,00091 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient deltamethrin.
	LC50 (Lepomis macrochirus (Bluegill sunfish)) 25,2 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient thiacloprid.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 0,00056 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient deltamethrin.
	EC50 (Daphnia magna (Water flea)) >= 85,1 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient thiacloprid.
	EC15 (Chironomus riparius (non-biting midge)) 0,0147 mg/l Exposure time: 28 d
<b>Toxicity to aquatic plants</b>	EC50 (Algae) > 9,1 mg/l Exposure time: 96 h



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The value mentioned relates to the active ingredient deltamethrin.

IC50 (Desmodesmus subspicatus (green algae)) 96,7 mg/l

Exposure time: 72 h

The value mentioned relates to the active ingredient thiacloprid.

### 12.2 Persistence and degradability

**Biodegradability** Thiacloprid:  
Not rapidly biodegradable  
Deltamethrin:  
Not rapidly biodegradable

**Koc** Thiacloprid: Koc: 615  
Deltamethrin: Koc: 10240000

### 12.3 Bioaccumulative potential

**Bioaccumulation** Thiacloprid:  
Does not bioaccumulate.  
Deltamethrin: Bioconcentration factor (BCF) 1.400  
Does not bioaccumulate.

### 12.4 Mobility in soil

**Mobility in soil** Thiacloprid: Slightly mobile in soils  
Deltamethrin: Immobile in soil

### 12.5 Results of PBT and vPvB assessment

**PBT and vPvB assessment** Thiacloprid: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).  
Deltamethrin: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

### 12.6 Other adverse effects

**Additional ecological information** No other effects to be mentioned.

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## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product** Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.

**Contaminated packaging** Triple rinse containers. Recycle if possible. If allowed under local authority, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. Do not use container for any other purpose.

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## SECTION 14: TRANSPORT INFORMATION

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

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### ADR/RID/ADN

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazchem Code	3Z

### IMDG

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

### IATA

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN )
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

### 14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No transport in bulk according to the IBC Code.

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## SECTION 15: REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Further information

HSNO approval-Nr.	HSR007653
HSNO Controls	See <a href="http://www.epa.govt.nz">www.epa.govt.nz</a>
ACVM Reg.	P7929
ACVM Condition	See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a>

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## SECTION 16: OTHER INFORMATION

### Abbreviations and acronyms

ADN European Agreement concerning the International Carriage of Dangerous Goods by

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ADR	Inland Waterways European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
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
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.

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