



SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name	Larvin® 375 Insecticide
Other names	none
Product code (UVP)	80052685
Chemical Group	oxime carbamate
Recommended use	Insecticide
Chemical Formulation	Suspension concentrate (=flowable concentrate)(SC)
Company	Bayer Cropscience Pty Ltd -ABN 87 000 226 022 391-393 Tooronga Road, East Hawthorn Victoria 3123, Australia
Telephone	(03) 9248 6888
Technical Information Service	1800 804 479
Facsimile	(03) 9248 6800
Website	www.bayercropscience.com.au
Emergency telephone no.	1800 033 111 Orica SH&E Shared Services

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

HAZARDOUS SUBSTANCE

DANGEROUS GOODS

Hazardous classification	Hazardous (National Occupational Health and Safety Commission - NOHSC)
R-phrases(s)	R23/25 - Toxic by inhalation and if swallowed. R36 - Irritating to eyes. R43 - May cause sensitisation by skin contact.
S-phrases(s)	See sections 4, 5, 6, 7, 8, 10, 12, 13.
ADG Classification	"Dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. - See Section 14.
SUSMP classification (Poison Schedule)	Schedule 6 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature
Thiodicarb 375 g/l

Chemical Name	CAS-No.	Concentration [%]
Thiodicarb	59669-26-0	35.51
1,2-Propanediol	57-55-6	>= 1.00 - <= 5.00
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.

General advice

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation

When inhaled remove to fresh air and seek medical aid. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice. Oxygen or artificial respiration if needed. Call a physician or poison control center immediately.

Skin contact

Take off contaminated clothing and shoes immediately. If signs of poisoning occur, call a physician immediately. Wash off immediately with plenty of water.

Eye contact

Rinse immediately with plenty of water and seek medical advice. Wash off immediately with plenty of water for at least 15 minutes.

Ingestion

Rinse mouth. Call a physician or poison control center immediately. Do not induce vomiting or give anything by mouth to an unconscious person. Take victim immediately to hospital.

Notes to physician

Symptoms

This product causes reversible cholinesterase inhibition without long term effects., Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced symptoms., The symptoms of cholinesterase inhibition include:, Miosis, Lacrimation, Respiratory paralysis, Bradycardia, Hypotension, Salivation, Bronchial hypersecretion, Nausea, Vomiting, Diarrhoea, Sweating, Fibrillation, Muscle twitching, Myoclonus, Somnolence, Coma, Respiratory failure, Hypothermia, Convulsions

Risks

This product is a cholinesterase inhibitor carbamate.

Treatment

Monitor: respiratory, cardiac and central nervous system.

Monitor: blood picture.

Monitor: red blood cell and plasma cholinesterase.

ECG - monitoring (Electrocardiogram).

Oxygen or artificial respiration if needed.

Keep respiratory tract clear.

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.

The following antidote is generally accepted: atropine.

Before antidote is administered, either clear symptoms of poisoning have to be present or the cholinesterase activity is inhibited to below 30% of normal.

In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens.

Contraindications: oximes (pralidoxime, obidoxime).

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Hazards from combustion products



In the event of fire the following may be released:

Carbon dioxide (CO₂)
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Sulphur oxides
Methyl isocyanate

Precautions for fire-fighting

Wear self-contained breathing apparatus and protective suit.
Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.
Whenever possible, contain fire-fighting water by diking area with sand or earth.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazchem Code •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions

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

Environmental precautions

Contain contaminated water and fire fighting water.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.
Clean contaminated floors and objects thoroughly, observing environmental regulations.

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

Handling

Hygiene measures

Avoid contact with skin, eyes and clothing.
Wash thoroughly with soap and water after handling.
After each day's use, wash gloves, face shield or goggles and contaminated clothing.
Garments that cannot be cleaned must be destroyed (burnt).
Remove soiled clothing immediately and clean thoroughly before using again.
Before removing gloves clean them with soap and water.
Wash hands immediately after work, if necessary take a shower.

Storage

Requirements for storage areas and containers

Keep out of the reach of children.
Store in original container.
Keep away from direct sunlight.
Keep containers tightly closed in a dry, cool and well-ventilated place.

Advice on common storage



Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Control parameters	Update	Basis
1,2-Propanediol (Particulate.)	57-55-6	10 mg/m ³ (TWA)	08 2005	AU OEL
1,2-Propanediol (Total vapour and particulates.)	57-55-6	474 mg/m ³ / 150 ppm (TWA)	08 2005	AU OEL

For further details on the Occupational Exposure Standards, see Section 16.

Biological limit values
none

Monitoring workers for blood cholinesterase levels is recommended.

Personal protective equipment - End user

Respiratory protection	AS/NZS 1715/1716 approved respirator Respirator with a combined dust and gas cartridge.
Hand protection	Elbow-length PVC or nitrile gloves
Eye protection	Face-shield or goggles
Skin and body protection	Cotton overall buttoned to the neck and wrist Washable hat Impervious footwear

Engineering Controls

Advice on safe handling
Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	suspension, viscous
Colour	white to beige
Odour	slighty of sulfur dioxide

Safety data

pH	3.5 - 5.0 at 100 % (23 °C)
Flash point	no data available
Ignition temperature	no data available
Upper explosion limit	no data available
Lower explosion limit	no data available



Vapour pressure	no data available
Relative vapour density	no data available
Density	ca. 1.14 g/cm ³ at 20 °C
Water solubility	dispersible
Partition coefficient: n-octanol/water	no data available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Materials to avoid	Strong acids Strong bases Alkali metals Heavy metals Rust Aluminium Iron Copper
Hazardous Decomposition Products	Thermal decomposition can lead to release of: Carbon oxides Nitrogen oxides (NO _x) Sulphur oxides Methomyl Dimethyl sulphide Methyl isocyanate
Hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions. Exothermic reaction with oxygen.

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Inhalation	Toxic by inhalation.
Skin	Toxic by skin absorption
Eye	May cause eye irritation.
Ingestion	Toxic if swallowed.
Acute oral toxicity	LD50 (rat) 386 mg/kg
Acute inhalation toxicity	LC50 (rat) 1.51 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.



Acute dermal toxicity	LD50 (rabbit) > 2,000 mg/kg
Skin irritation	No skin irritation (rabbit)
Eye irritation	Slight irritation (rabbit)
Sensitisation	Sensitising (guinea pig)
Chronic toxicity	Thiodicarb caused reversible cholinesterase inhibition without long term effects in animal studies.

Assessment Mutagenicity

Thiodicarb was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity

Thiodicarb caused at high dose levels an increased incidence of tumours in the following organ(s): liver, testes. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

Assessment toxicity to reproduction

Thiodicarb caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Thiodicarb is related to parental toxicity.

Assessment developmental toxicity

Thiodicarb caused developmental toxicity only at dose levels toxic to the dams. Thiodicarb caused a reduced pup survival. The developmental effects seen with Thiodicarb are related to maternal toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) > 3.3 mg/l flow-through test Exposure time: 96 h The value mentioned relates to the active ingredient thiodicarb.
Toxicity to fish	LC50 (Lepomis macrochirus (Bluegill sunfish)) 1.4 mg/l flow-through test Exposure time: 96 h The value mentioned relates to the active ingredient thiodicarb.
Toxicity to aquatic invertebrates	(Water flea (Daphnia magna)) 0.027 mg/l flow-through test Exposure time: 48 h The value mentioned relates to the active ingredient thiodicarb.
Toxicity to aquatic plants	IC50 (Selenastrum capricornutum) > 18 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient thiodicarb.



Toxicity to other organisms	LC50 (Anas platyrhynchos (Mallard duck)) > 5,620 mg/kg The value mentioned relates to the active ingredient thiodicarb.
Toxicity to other organisms	LC50 (Colinus virginianus (Bobwhite quail)) > 5,620 mg/kg The value mentioned relates to the active ingredient thiodicarb.
Toxicity to other organisms	(Apis mellifera (bees)) The value mentioned relates to the active ingredient thiodicarb. Toxic to bees.
Biodegradability	Readily biodegradable. The value mentioned relates to the active ingredient thiodicarb.
Stability in soil	In various soils : DT50 3 - 8 d. Depending on soil type. The value mentioned relates to the active ingredient thiodicarb.
Bioaccumulation	Bioconcentration factor (BCF): 6.3 The value mentioned relates to the active ingredient thiodicarb.
Additional Environmental Information	no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Refillable containers:
 Empty contents fully into application equipment. Close all valves and return to point of purchase. Refer to product label for further information.
 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, LIQUID, N.O.S. (THIODICARB 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



EmS	F-A , S-F
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (THIODICARB SOLUTION)

IATA

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

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 49254
See also Section 2.

SECTION 16. OTHER INFORMATION

Trademark information Larvin® 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.

Further details on the Occupational Exposure Standards mentioned in Section 8:

CEILING: Ceiling Limit Value

OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

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.

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.

SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.

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.

Bayer CropScience
Safety Data Sheet
Larvin® 375 Insecticide



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

END OF SDS