

MATERIAL SAFETY DATA SHEET



Date of Issue: May 9, 2007

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name **Calypso[®] 480 SC Insecticide**

Other names None

Product codes and pack sizes 2813347 (5 L)

Chemical group Chloronicotinyl

Recommended use Agricultural insecticide

Formulation Suspension concentrate

Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022

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Emergency

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2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARDOUS SUBSTANCE (see Risk phrases below) – **DANGEROUS GOOD**
Very highly toxic to certain aquatic invertebrates.

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)

Risk phrases R20/22 – Harmful by inhalation and if swallowed.
R40 – Limited evidence of carcinogenic effect.
R43 – May cause sensitisation by skin contact.
R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R63 – Possible risk of harm to the unborn child.

Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13

ADG classification "Dangerous good" according to the Australian Code for the Transport of Dangerous Goods by Road and Rail: PESTICIDE, LIQUID, TOXIC, N.O.S. (contains thiacloprid), Class 6.1, Packing Group III, UN 2902. Marine Pollutant. See Section 14.

SUSDP classification (Poison Schedule) Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Thiacloprid	[111988-49-9]	480
Other ingredients, including thickening and dispersing agents, antifreeze, preservatives and water	(non-hazardous)	710

MATERIAL SAFETY DATA SHEET



Date of Issue: May 9, 2007

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 Material Safety Data Sheet to the doctor.

Inhalation	If inhaled, remove to fresh air and keep warm and at rest. Seek medical advice immediately.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical advice if symptoms persist.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes. Obtain immediate medical advice.
Ingestion	Obtain immediate medical advice as above. Do NOT induce vomiting. Rinse mouth and give small sips of water to drink. Never give anything by mouth to an unconscious or semi-conscious person.
First Aid Facilities	Provide washing facilities in the workplace.
Medical attention	<u>Symptoms</u> <i>Local:</i> None expected. <i>Systemic:</i> Nicotine-like effects <u>Treatment</u> Elementary aid, decontamination and symptomatic treatment. Gastric lavage should be considered for significant ingestions within the first 2 hours. Administration of activated charcoal and sodium sulphate. <i>Antidote:</i> None known.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, carbon dioxide, foam, sand.
Hazards from combustion products	In a fire, formation of hydrogen chloride, hydrogen cyanide, carbon monoxide, sulphur dioxide and nitrogen oxide gases can be expected.
Precautions for fire fighters	Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later. Do not release contaminated water into the environment.
Hazchem code	2X

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8 - PERSONAL PROTECTION. Keep people and animals away. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

MATERIAL SAFETY DATA SHEET



Date of Issue: May 9, 2007

7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Product is poisonous if swallowed. Wash hands after use. After each day's use, wash gloves and contaminated clothing.
Storage	Store in the closed, original container in a cool, dry, well-ventilated area. Do not store for prolonged periods in direct sunlight.
Flammability	Not flammable – water based product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	There are no applicable NOHSC exposure standards.
Biological limit values	None allocated
Engineering controls	Control process conditions to avoid contact. Use in a well-ventilated area only.
Personal Protective Equipment	<ul style="list-style-type: none">• Wear goggles if exposure is likely.• Wear cotton overalls buttoned to the neck and wrist (or equivalent clothing).• Wear elbow-length PVC or nitrile gloves.• Wear a disposable fume mask.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to beige liquid suspension
Odour:	Negligible
pH:	~ 7
Vapour pressure:	3×10^{-7} mPa at 20° C (<i>thiacloprid</i>)
Vapour density:	Not available
Boiling point:	~ 100° C
Freezing/melting point:	Not available
Solubility:	Miscible with water
Density:	1.19 g/mL at 20° C
Flash Point:	No flash point up to the boiling point.
Flammability (explosive) limits:	Not applicable
Auto-ignition temperature:	No ignition temperature up to 600° C.
Partition coefficient (octanol/water):	<i>Thiacloprid</i> : Log P_{ow} = 1.26 (20° C)

MATERIAL SAFETY DATA SHEET



Date of Issue: May 9, 2007

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Avoid extreme heat and avoid freezing.
Incompatible materials	Avoid acids and alkalis.
Hazardous decomposition products	None under normal conditions. In a fire, formation of hydrogen chloride, hydrogen cyanide, carbon monoxide, sulphur dioxide and nitrogen oxide gases can be expected.
Hazardous reactions	None known.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Harmful by inhalation.
Skin contact	Not expected to irritate the skin. Skin sensitiser.
Eye contact	Not expected to irritate the eyes.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA – PRODUCT

Acute:

Oral toxicity	LD ₅₀ rat > 300 - < 500 mg/kg (<i>similar product</i>)
Dermal toxicity	LD ₅₀ rat: > 4000 mg/kg (<i>similar product</i>)
Inhalation toxicity	LC ₅₀ (4 h) rat: > 0.9 - < 2.2 mg/L (as an aerosol) (<i>similar product</i>)
Skin irritation	Not irritating (rabbit) (<i>similar product</i>)
Eye irritation	Not irritating (rabbit) (<i>similar product</i>)
Sensitisation	Sensitising (guinea pig) (<i>similar product</i>)

Chronic:

In animal studies with thiacloprid active ingredient there was limited evidence of a carcinogenic potential and a possible risk of harm to the unborn child. These effects occurred in animals only at high doses and are not considered predictive of similar effects in humans. Thiacloprid was not mutagenic, and was not neurotoxic in animal studies.

Date of Issue: May 9, 2007

12. ECOLOGICAL INFORMATION

Very highly toxic to certain aquatic invertebrates. Thiacloprid was generally of low acute toxicity to birds, slightly toxic to algae, moderately to slightly toxic to earthworms, and moderately to relatively non-toxic to honeybees. Thiacloprid may adversely affect some beneficial insects in worse case situations.

DO NOT contaminate streams, rivers or waterways with Calypso 480 SC Insecticide or the used containers.

Ecotoxicity

Thiacloprid:

Fish toxicity:

LC₅₀: 30.5 mg/L (96 h); rainbow trout (*Oncorhynchus mykiss*)

LC₅₀: 25.2 mg/L (96 h); bluegill sunfish (*Lepomis macrochirus*)

Aquatic invertebrate toxicity:

EC₅₀: 24.5 µg/L (96 h); amphipod (*Hyalella azteca*)

EC₅₀: 2.18 µg/L (28 day) midge (*Chironomus riparius*)

EC₅₀: 85.1 mg/L (48 h) *Daphnia magna*

Algae toxicity:

IC₅₀: 96.7 mg/L (72 h); green algae (*Desmodesmus subspicatus*)

Bird toxicity:

Acute oral LD₅₀: 49 mg/kg; Japanese quail

Acute oral LD₅₀: 2716 mg/kg; bobwhite quail

Calypso 480 SC Insecticide:

Fish toxicity:

LC₅₀: 80.7 mg/L (96 h); bluegill sunfish (*Lepomis macrochirus*)

Environmental fate, persistence and degradability, mobility

Thiacloprid has medium to low mobility in soils. DT₅₀ (6 soils) was 7-21 days. Mean K_{oc} 615 (6 soils).

Thiacloprid has a low potential for bioconcentration or bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Triple rinse 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. Do not re-use empty container for any other purpose. Dispose of waste product through a reputable waste contractor.

14. TRANSPORT INFORMATION

UN number	2902
Proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains thiacloprid)
Class and Subsidiary Risk	6.1 No subsidiary risk
Packing Group	III
EPG	34 – Dangerous Goods – Initial Emergency Response Guide
Hazchem code	2X
Marine Pollutant	Yes

MATERIAL SAFETY DATA SHEET



Date of Issue: May 9, 2007

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority approval number: 53203. See also Section 2.

16. OTHER INFORMATION

Trademark information Calypso® is a Registered Trademark of Bayer.

Preparation information Replaces October 2, 2002 MSDS.
Reasons for revision: Product code, Risk phrases, Marine Pollutant, Composition/Information on Ingredients, First Aid Measures, Extinguishing media, Physical & Chemical Characteristics, Toxicological Information, Ecological Information.

This MSDS 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 MSDS 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.

END OF MSDS