

**Bayer Environmental Science**  
**Safety Data Sheet**  
**Tempo® Residual Insecticide**



Version / AUS  
 102000007418

Revision Date: 18.07.2012

**SECTION 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

Product name: **Tempo® Residual Insecticide**  
 Other names: None  
 Product code (UVP): 05113962  
 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.bayeres.com.au  
 Contact: (03) 9248 6888 Technical Manager

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-phrase(s): R23/25 - Toxic by inhalation and if swallowed.  
 R43 - May cause sensitization by skin contact.  
 R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s): See sections 4, 5, 6, 7, 8, 10, 13.

ADG Classification: Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. For transport by sea, Tempo Residual Insecticide is a MARINE POLLUTANT. See Section 14.

SUSMP classification (Poison Schedule): Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons).

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature: Beta-Cyfluthrin 25 g/L

Chemical Name	CAS-No.	Concentration [%]
Cyfluthrin	68359-37-5	2.20
Sulphuric acid	7664-93-9	0.05
Mixture of 5-Chlor-2-methyl-3(2H)-	55965-84-9	0.20

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isothiazolon and 2-Methyl-2H-isothiazol-3-on		
Glycerine	56-81-5	10.00
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.**

##### **Skin contact**

Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. In case of skin irritation, application of oils or lotions containing vitamin E may be considered.

##### **Eye contact**

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. Get medical attention if irritation develops and persists.

##### **Ingestion**

Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

##### **Notes to physician**

##### **Symptoms**

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, dizziness, blurred vision, headache, anorexia, somnolence, coma, convulsions, tremors, prostration, airway hyperreaction, pulmonary oedema, palpitation, muscular fasciculation, apathy.

##### **Risks**

This product contains a pyrethroid.  
Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

##### **Treatment**

Local treatment: Initial treatment: Symptomatic.  
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.

## SECTION 5. FIRE FIGHTING MEASURES

### Suitable extinguishing media

Water spray  
Carbon dioxide (CO<sub>2</sub>)  
Foam  
Sand

### Hazards from combustion products

In the event of fire the following may be released:  
Hydrogen chloride (HCl)  
Hydrogen cyanide (hydrocyanic acid)  
Hydrogen fluoride  
Carbon monoxide (CO)  
Nitrogen oxides (NO<sub>x</sub>)

### Precautions for fire-fighting

In the event of fire and/or explosion do not breathe fumes.  
In the event of fire, wear self-contained breathing apparatus.  
Wear self-contained breathing apparatus and protective suit.  
Contain the spread of the fire-fighting media.  
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.  
Use personal protective equipment.  
When dealing with a spillage do not eat, drink or smoke.

### Environmental precautions

Do not allow to get into surface water, drains and ground 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).  
Clean contaminated floors and objects thoroughly, observing environmental regulations.  
Keep in suitable, closed containers for disposal.

### Additional advice

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.
- Keep working clothes separately.
- Remove soiled clothing immediately and clean thoroughly before using again.

- Garments that cannot be cleaned must be destroyed (burnt).
- Wash hands before breaks and immediately after handling the product.

**Storage**

Requirements for storage areas and containers:

- Store in original container.
- Store in a place accessible by authorized persons only.
- 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
Glycerine (Inspirable dust)	56-81-5	10 mg/m <sup>3</sup> (TWA)	12 2011	AU OEL
Sulphuric acid	7664-93-9	1 mg/m <sup>3</sup> (TWA)	12 2011	AU OEL
Sulphuric acid	7664-93-9	3 mg/m <sup>3</sup> (STEL)	12 2011	AU OEL
Sulphuric acid	7664-93-9	0.1 mg/m <sup>3</sup> (TWA)		OES BCS

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

Biological limit values: None

**Personal protective equipment - End user**

Respiratory protection: No personal respiratory protective equipment normally required.

Hand protection: Elbow-length PVC or nitrile gloves.

Skin and body protection: Cotton overall buttoned to the neck and wrist.  
 Washable hat

**Engineering controls**

Advice on safe handling:

- Use only in area provided with appropriate exhaust ventilation.



**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**

Form: Liquid, suspension  
Colour: Grey white  
Odour: Weak, characteristic

**Safety data**

pH: 3.0 - 7.0 at 100 % (23 °C)  
Flash point: > 100 °C  
No flash point - Determination conducted up to the boiling point.  
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<sup>3</sup> at 20 °C  
Water solubility: Miscible  
Partition coefficient: n-octanol/water: No data available

**SECTION 10. STABILITY AND REACTIVITY**

Chemical stability: Stable under normal conditions.  
Materials to avoid: Strong acids  
Bases  
Strong oxidizing agents  
Hazardous decomposition products: Thermal decomposition can lead to release of:  
Hydrogen chloride (HCl)  
Hydrogen cyanide (hydrocyanic acid)  
Hydrogen fluoride  
Carbon monoxide  
nitrogen oxides (NO<sub>x</sub>)  
Hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Potential health effects**

Inhalation: Toxic by inhalation. May cause irritation of the mucous membranes.

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Skin: May cause skin irritation.

Eye: May cause eye irritation.

Ingestion: Toxic if swallowed.

**Animal toxicity studies**

Acute oral toxicity: LD<sub>50</sub> (rat) > 2,500 mg/kg

Acute inhalation toxicity: LC<sub>50</sub> (rat) > 4.524 mg/L  
Exposure time: 4 h  
Determined in the form of a respirable aerosol.  
Highest attainable concentration.

Acute dermal toxicity: LD<sub>50</sub> (rat) > 4,000 mg/kg

Skin irritation: No skin irritation (rabbit).

Eye irritation: No eye irritation (rabbit).

Sensitisation: Non-sensitizing (guinea pig).  
OECD Test Guideline 406, Magnusson & Kligman test

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

Cyfluthrin was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Cyfluthrin 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 Cyfluthrin is related to general toxicity.

**Assessment developmental toxicity**

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

**Chronic toxicity**

Cyfluthrin caused clinical signs of toxicity including neurological symptoms and effects on the thyroid in chronic studies on rats and dogs.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity effects**

Toxicity to fish: LC<sub>50</sub> (*Oncorhynchus mykiss* (Rainbow trout)) 0,068 µg/L  
Exposure time: 96 h  
The value mentioned relates to the active ingredient beta-cyfluthrin.

Toxicity to aquatic invertebrates: EC<sub>50</sub> (*Daphnia magna* (Water flea)) 0,29 µg/L  
Exposure time: 48 h  
The value mentioned relates to the active ingredient beta-cyfluthrin.

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Toxicity to aquatic plants:	IC <sub>50</sub> ( <i>Desmodemus subspicatus</i> ) > 0.01 mg/L Growth rate Exposure time: 72 h The value mentioned relates to the active ingredient beta-cyfluthrin. No acute toxicity was observed at its limit of water solubility.
Toxicity to other organisms:	LD <sub>50</sub> ( <i>Coturnix japonica</i> (Japanese quail)) > 2,000 mg/kg The value mentioned relates to the active ingredient beta-cyfluthrin.
Biodegradability:	Readily biodegradable. The value mentioned relates to the active ingredient beta-cyfluthrin.

#### 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, LIQUID, N.O.S. (BETA-CYFLUTHRIN 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. (BETA-CYFLUTHRIN SOLUTION)

##### IATA

UN-Number	3082
Class	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES

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Description of the goods      ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(BETA-CYFLUTHRIN SOLUTION )

**SECTION 15. REGULATORY INFORMATION**

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994.

Australian Pesticides and Veterinary Medicines Authority approval number: 54134.

See also Section 2.

**SECTION 16. OTHER INFORMATION**

**Trademark information**

Tempo® is 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"

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.

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

Reason for revision: Changed name from Material Safety Data Sheet to Safety Data Sheet.

END OF SDS