

Safety Data Sheet



Crackdown® Residual Insecticide

Version 1 / AUS
102000014058

1/11
Revision Date: 26.10.2016
Print Date: 26.10.2016

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name Crackdown® Residual Insecticide
Product code (UVP) 06068855

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

Supplier Bayer Cropscience Pty Ltd
ABN 87 000 226 022
Level 1, 8 Redfern Road
3123 Hawthorn East
Victoria
Australia

Telephone (03) 9248 6888

Telefax (03) 9248 6800

Responsible Department 1800 804 479 Technical Information Service

Website www.environmentalscience.bayer.com.au

1.4 Emergency telephone no.

Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Skin sensitisation: Category 1
H317 May cause an allergic skin reaction.

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.

2.2 Label elements

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

Deltamethrin
Tetramethrin
Piperonyl butoxide

Signal word: Warning

Hazard statements

H317 May cause an allergic skin reaction.
H400 Very toxic to aquatic life.



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H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing mist.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of water/ soap.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Deltamethrin 10g/l, d-Tetramethrin 20:80 10g/l, Piperonyl butoxide 80g/l
Chemical nature Suspo-emulsion (SE)

Chemical Name	CAS-No.	Concentration [%]
Deltamethrin	52918-63-5	0.99
Tetramethrin	7696-12-0	0.99
Piperonyl butoxide	51-03-6	7.92
1,2-Propanediol	57-55-6	5.97
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	0.02
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.

4.1 Description of first aid measures

Inhalation Move the victim to fresh air and keep at rest.

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. If signs of poisoning occur, call a physician immediately.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Eye treatment by an ophthalmologist.

Ingestion Rinse mouth. Do NOT induce vomiting. Keep at rest. Obtain medical attention. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed



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Symptoms Burning sensation, Airway hyperreaction, Pulmonary oedema, Tachycardia, Hypotension, Palpitation, Nausea, Vomiting, Diarrhoea, Abdominal pain, Salivation, Dizziness, Blurred vision, Headache, anorexia, Somnolence, Coma, Seizures, Convulsions, Tremors, Ataxia, Muscular fasciculation

4.3 Indication of any immediate medical attention and special treatment needed

Treatment Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. ECG - monitoring (Electrocardiogram). Contraindication: atropine.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable Water spray, Carbon dioxide (CO₂), Foam, Dry chemical

Unsuitable High volume water jet

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released: Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid)

5.3 Advice for firefighters

Special protective equipment for firefighters Wear self-contained breathing apparatus and protective suit.

Further information Cool closed containers exposed to fire with water spray. 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

6.1 Personal precautions, protective equipment and emergency procedures

Precautions An emergency shower must be readily accessible to the work area. Use personal protective equipment. Avoid contact with spilled product or contaminated surfaces. Keep unauthorized people away.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. Contain contaminated water and fire fighting water. If the product contaminates rivers and lakes or drains inform respective authorities.

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). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.



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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 Avoid contact with skin, eyes and clothing. Use only in area provided with appropriate exhaust ventilation.

Hygiene measures Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Protect from frost.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Deltamethrin	52918-63-5	0.02 mg/m ³ (TWA)		OES BCS*
Piperonyl butoxide	51-03-6	500 ppm (TWA)		OES BCS*
1,2-Propanediol (Total vapour and particulates.)	57-55-6	474 mg/m ³ /150 ppm (TWA)	12 2011	AU NOEL
1,2-Propanediol (Particulate.)	57-55-6	10 mg/m ³ (TWA)	12 2011	AU NOEL

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls

Respiratory protection 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.
Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and 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.



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Eye protection	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
Skin and body protection	Wear standard coveralls and Category 3 Type 5 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 there is a risk of significant exposure, consider a higher protective type suit.
General protective measures	In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.
Engineering Controls	
Advice on safe handling	Avoid contact with skin, eyes and clothing. Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	suspension
Colour	white
pH	3.0 - 7.0 at 100 % (23 °C)
Density	ca. 1.01 g/cm ³ at 20 °C
Partition coefficient: n-octanol/water	Deltamethrin: log Pow: 6.4 at 25 °C Tetramethrin: log Pow: 4.35 Piperonyl butoxide: log Pow: 4.75
Viscosity, dynamic	470 - 770 mPa·s at 20 °C Velocity gradient 12.7 /s

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 hazardous reactions when stored and handled according to prescribed instructions.



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- 10.4 Conditions to avoid** No data available
- 10.5 Incompatible materials** Oxidizing agents, Strong acids, Bases, Iron
- 10.6 Hazardous decomposition products** Thermal decomposition can lead to release of:
Oxides of carbon
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)
Hydrogen cyanide (hydrocyanic acid)

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- Acute oral toxicity** LD50 (Rat) > 10,000 mg/kg
Test conducted with a similar formulation.
LD50 (Rat) 4,570 mg/kg
The value mentioned relates to the active ingredient piperonyl butoxide.
LD50 (Rat) > 5,000 mg/kg
The value mentioned relates to the active ingredient D-tetramethrin.
LD50 (Rat) 87 mg/kg
The value mentioned relates to the active ingredient deltamethrin.
- Acute inhalation toxicity** LC50 (Rat) 0.6 mg/l
Exposure time: 6 h
The value mentioned relates to the active ingredient deltamethrin.
LC50 (Rat) 5.9 mg/l
Exposure time: 4 h
The value mentioned relates to the active ingredient piperonyl butoxide.
LC50 (Rat) > 1.18 mg/l
Exposure time: 4 h
The value mentioned relates to the active ingredient D-tetramethrin.
- Acute dermal toxicity** LD50 (Rat) > 10,000 mg/kg
Test conducted with a similar formulation.
LD50 (Rat) > 2,000 mg/kg
The value mentioned relates to the active ingredient deltamethrin.
LD50 (Rat) > 5,000 mg/kg
The value mentioned relates to the active ingredient D-tetramethrin.
LD50 (Rabbit) > 2,000 mg/kg
The value mentioned relates to the active ingredient piperonyl butoxide.
- Skin irritation** No skin irritation (Rabbit)
The value mentioned relates to the active ingredient deltamethrin.
No skin irritation (Rabbit)
The value mentioned relates to the active ingredient D-tetramethrin.
- Eye irritation** No eye irritation (Rabbit)
The value mentioned relates to the active ingredient deltamethrin.
- Sensitisation** Non-sensitizing. (Guinea pig)
The value mentioned relates to the active ingredient deltamethrin.
- Assessment mutagenicity**



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Deltamethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Tetramethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Piperonyl butoxide was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice.
Tetramethrin caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Testes. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.
Piperonyl butoxide was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Deltamethrin did not cause reproductive toxicity in a two-generation study in rats.
Tetramethrin did not cause reproductive toxicity in a two-generation study in rats.
Piperonyl butoxide did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Deltamethrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Deltamethrin are related to maternal toxicity.
Tetramethrin did not cause developmental toxicity in rats and rabbits.
Piperonyl butoxide did not cause developmental toxicity in rats and rabbits.

Assessment STOT Specific target organ toxicity – repeated exposure

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.
Tetramethrin did not cause specific target organ toxicity in experimental animal studies.
Piperonyl butoxide 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

Avoid breathing spray mist., May cause irritation of the mucous membranes.
Irritant, Can cause irritation to the skin resulting in effects such as burning and/or tingling sensation.
May cause eye irritation.
May be harmful if swallowed., May cause nausea, vomiting, abdominal pain.

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



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Further information

No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.00091 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient deltamethrin.

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.01 mg/l
The value mentioned relates to the active ingredient D-tetramethrin.

LC50 (Cyprinodon variegatus (sheepshead minnow)) 3.94 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to aquatic invertebrates

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)) 0.51 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to aquatic plants

EC50 (Algae) > 9.1 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient deltamethrin.

IC50 (Raphidocelis subcapitata (freshwater green alga)) 2.09 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient piperonyl butoxide.

12.2 Persistence and degradability

Biodegradability

Deltamethrin:
Not rapidly biodegradable
Tetramethrin:
Not rapidly biodegradable
Piperonyl butoxide:
Not rapidly biodegradable

Koc

Deltamethrin: Koc: 10240000
Tetramethrin: Koc: 8900
Piperonyl butoxide: Koc: 399 - 830

12.3 Bioaccumulative potential

Bioaccumulation

Deltamethrin: Bioconcentration factor (BCF) 1,400
Does not bioaccumulate.
Tetramethrin:
Potential bioaccumulation
Piperonyl butoxide:
Potential bioaccumulation

12.4 Mobility in soil



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Mobility in soil
Deltamethrin: Immobile in soil
Tetramethrin: Immobile in soil
Piperonyl butoxide: Moderately mobile in soils

12.5 Other adverse effects

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
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN 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
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)

IATA

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



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SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 45907

SUSMP classification (Poison Schedule)

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 16. OTHER INFORMATION

Trademark information Crackdown® 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.

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 Conc.	Ceiling Limit Value 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
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



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N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
OES BCS	OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
PEAK	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_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL	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	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.
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

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

END OF SDS