

MATERIAL SAFETY DATA SHEET

Crackdown® Residual Insecticide



Date of Issue: June 17th, 2011

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name: Crackdown® Residual Insecticide
Other names: None
UVP: 06068855
Chemical group: Pyrethroid
Recommended use: Insecticide
Formulation: Suspension concentrate (SC)
Supplier: Bayer Environmental Science - A Business Group of Bayer CropScience Pty Ltd
ABN 87 000 226 022
Address: 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: Technical Manager (03) 9248 6888
Emergency Telephone Number: 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

HAZARDOUS SUBSTANCE - DANGEROUS GOOD
May cause sensitisation by skin contact.

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

Risk phrases: R43 – May cause sensitisation by skin contact.

Safety phrases: 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, Crackdown Residual Insecticide is a MARINE POLLUTANT. See Section 14.

SUSMP classification: Schedule 5 (Standard for the Uniform Scheduling of Medicine and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredients: | CAS Number: | Concentration (g/L): |
|---|--------------|----------------------|
| Deltamethrin | [52918-63-5] | 10 |
| α -Tetramethrin 20:80 | [7696-12-0] | 10 |
| Piperonyl butoxide | [51-03-6] | 80 |
| Propylene glycol | [57-55-6] | 57 |
| Mixed isothiazolones, sodium or magnesium salts | [55965-84-9] | 2.5 |

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|-------------------|-----------------|-------|
| Other ingredients | (non hazardous) | 847.5 |
|-------------------|-----------------|-------|

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 a doctor.

- Inhalation:** Remove to fresh air, allow to rest and keep warm. Loosen clothes.
- Skin contact:** Remove all contaminated clothing and shoes. Wash off skin immediately with soap and plenty of water. Seek medical advice if irritation persists. Launder contaminated clothing before re-use.
- Eye contact:** Rinse immediately with plenty of water for at least 15 minutes, holding eye open. Seek advice from an ophthalmologist.
- Ingestion:** Wash out mouth with water. Do not induce vomiting. Keep patient at rest and seek medical advice as above. Do not apply mouth to mouth resuscitation if the material has been ingested.
- First Aid Facilities:** Ensure eye wash and safety shower are available when handling this product.
- Symptoms:** Burning sensations on the skin, irritation of the mucous membranes, coughing and sneezing may be experienced. Following severe intoxication, respiratory effects can include chest tightness, airway hyperreaction, and pulmonary oedema. Possible circulatory effects include tachycardia, hypotension, and palpitations. Gastrointestinal symptoms may include nausea, vomiting, diarrhoea, abdominal pain, and salivation. Potential Central Nervous System effects are dizziness, blurred vision, headache, listlessness, anorexia, somnolence/coma, seizures/convulsions, tremor, ataxia, and muscle fasciculations.
- Medical attention:** Treatment
Basic aid, decontamination, symptomatic treatment and if necessary administration of antidote.
- Note for physicians
Treat large intakes with gastric lavage, and charcoal administration. Use endotracheal intubation, and artificial respiration (if necessary). Monitor respiratory and cardiac functions. Observe electrocardiograph, and check for pulmonary oedema in event of inhalation. Anti-convulsant therapy with diazepam i.v. No antidote known. Treat symptoms. Recovery should be spontaneous. Elimination by: dialysis, haemo-perfusion. Contraindication – adrenergic compounds, atropine. DO NOT confuse with anticholinesterase compounds. Skin contacted by deltamethrin must be carefully cleaned with cleansing milk. Symptoms can be partially alleviated by the application of a vitamin E or moisturising cream or anaesthetic ointment. For eyes, instil local anaesthetic drops e.g. 1 % amethocaine hydrochloride eye drops. Give analgesics as necessary.

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5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray, carbon dioxide, foam, dry chemical. Do not use a water jet from a fire hose.

Hazards from combustion products: Heating/combustion will generate oxides of carbon and nitrogen, hydrogen chloride, hydrogen cyanide, and other irritant and toxic fumes.

Precautions for fire fighters: Firefighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). If possible and without risk, remove intact containers from exposure to fire. Otherwise, spray unopened containers with water to keep cool. Contain fire-fighting water by bunding area with sand or earth to prevent it entering any bodies of water. Dispose of extinguishing agent and spillage safely later. Contamination of water bodies should be avoided.

6. ACCIDENTAL RELEASE MEASURES

Dealing with spills and disposals may result in the potential for increased personal exposure. Protective clothing and equipment as described in the PERSONAL PROTECTION section should be worn. Avoid contact with spilled material or contaminated surfaces. Keep people and animals away. Prevent spillage from entering drains, sewers or watercourses. Contain/absorb spillage in sand/earth or other suitable inert material. Transfer collected material to sealable containers. Seal and label containers ready for disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

7. HANDLING AND STORAGE

Handling: Use only in a well-ventilated area.
Avoid contact with skin and eyes.
Do not spray facing the wind.

Storage: Store product in the closed, original container in a safe, cool, well-ventilated area.
Do not store for prolonged periods in direct sunlight.
Protect from frost.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters:

| Components | CAS-No. | Control parameters | Update | Basis |
|------------------|------------|---------------------------|--------|--------------|
| Deltamethrin | 52918-63-5 | 0.02 mg/m ³ | | OES BCS* |
| Propylene glycol | 57-55-6 | 10 mg/m ³ mist | | Manufacturer |

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

Personal protective equipment:
In normal use and handling conditions:

Eyes: Wear face shield.

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Clothing: When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat.

Gloves: Elbow-length PVC gloves.

Respiratory: Avoid inhaling spray mist.

In all other cases the following recommendations would apply:

Respiratory protection: 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.

Hand protection: Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness 0,40 mm). Wash when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed. Wash hands always before eating, drinking, smoking or using the toilet.

Eye protection: Wear goggles conforming to EN166 (Field of Use 5 or equivalent).

Skin and body protection: Wear standard coverall and type 6 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.

Hygiene measures: Do not eat, drink or smoke until after washing.
Wash thoroughly after handling.
After each day's use wash gloves, face shield and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White liquid, mild aromatic odour
Odour: Mild aromatic odour

Vapour pressure: As for water

Vapour density: Not available

Boiling point: 100 °C (boiling point)

Solubility: Forms a suspension

Density: 1.01 at 20 °C

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|---|-------------------------------|
| pH: | Not available |
| Flash point: | Not available – not flammable |
| Flammability (explosive) limits: | Not applicable |
| Auto-ignition temperature: | Not applicable |
| Octanol/water partition coefficient: | Not available |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| Chemical stability: | Stable under normal conditions. No hazards are expected if the material is handled, stored and used according to instructions and government regulations. Not known to produce hazardous reactions. Avoid oxidising agents, strong acids and alkalis. |
| Hazardous polymerisation: | Not known to produce hazardous reactions. |
| Conditions to avoid: | Avoid oxidising agents, strong acids and alkalis. |
| Incompatible materials: | Avoid iron and alloys. |
| Hazardous decomposition products: | Heating/combustion will generate oxides of carbon and nitrogen, hydrogen chloride, hydrogen cyanide, and other irritant and toxic fumes. |

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

| | |
|----------------------|---|
| Inhalation: | Avoid breathing spray. Inhalation of spray may cause transient irritation of mucous membranes (nose, throat and respiratory tract) for up to 24 hours. |
| Skin contact: | Irritating. Contact with the skin, especially the face, may result in initial stinging or burning sensations followed by numbing which may persist for a few hours. |
| Eye contact: | Irritant. |
| Ingestion: | Product is harmful if swallowed. Symptoms include headache, dizziness, drowsiness, diarrhoea, nausea, vomiting. |
| Other: | None |



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ANIMAL TOXICITY DATA – PRODUCT AND INDIVIDUAL INGREDIENTS:

Acute oral toxicity: LD₅₀ rat: > 10,000 mg/kg
Test conducted with a similar product.
LD₅₀ rat: 135 to >5,000 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 rat: 7,500 mg/kg
The value mentioned relates to the active ingredient, piperonyl butoxide.

Acute dermal toxicity: LD₅₀ rat: > 10,000 mg/kg
Test conducted with a similar product.
LD₅₀ rabbit: > 2,000 mg/kg
The value mentioned relates to the active ingredient, deltamethrin.
LD₅₀ rat: > 5,000 mg/kg (*d*-tetramethrin)
The value mentioned relates to the active ingredient, *d*-tetramethrin.
LD₅₀ rat: > 7950 mg/kg
The value mentioned relates to the active ingredient, piperonyl butoxide.

Inhalation toxicity: LC₅₀ (4 h) for rats: 2.2 mg/L
The value mentioned relates to the active ingredient, deltamethrin.
LC₅₀ (3 h) for rats: > 1,180 mg/m³
The value mentioned relates to the active ingredient, *d*-tetramethrin.
LC₅₀ (4 h) for rats: > 5.9 mg/L
The value mentioned relates to the active ingredient, piperonyl butoxide.

Skin irritation: Not a skin irritant – rabbit
The value mentioned relates to the active ingredient, deltamethrin.
Not a skin irritant – rabbit
The value mentioned relates to the active ingredient, *d*-tetramethrin.

Eye irritation: Slightly irritating – rabbit
The value mentioned relates to the active ingredient, deltamethrin.

Sensitisation: Not sensitising – Guinea pig
The value mentioned relates to the active ingredient, deltamethrin.

Other information:

Deltamethrin is not mutagenic, carcinogenic or teratogenic. Piperonyl butoxide is not classified as a carcinogen. One reference indicates that exposure to large amounts of piperonyl butoxide may cause blood disorders or liver damage. Piperonyl butoxide is not mutagenic. No birth defects or adverse effects on reproductive parameters were found in studies with rats and rabbits. Piperonyl butoxide is not considered to be teratogenic.

12. ECOLOGICAL INFORMATION

Fish toxicity: LC₅₀ (96 h) 0.001 – 0.01 mg/L (fish)
The value mentioned relates to the active ingredient, deltamethrin.
LC₅₀ 16 µg/L (bluegill sunfish)
The value mentioned relates to the active ingredient, tetramethrin.
LC₅₀ (24 h) 5.3 mg/L (carp)

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The value mentioned relates to the active ingredient, piperonyl butoxide.

Daphnia toxicity: LC₅₀ (48 h) 3.5 µg/L
The value mentioned relates to the active ingredient, deltamethrin.
EC₅₀ (48 h) 0.11 mg/L
The value mentioned relates to the active ingredient, tetramethrin.
LC₅₀ (24 h) 2.95 mg/L
The value mentioned relates to the active ingredient, piperonyl butoxide.

Toxicity to algae: EC₅₀ (96 h) > 9.1 mg/L
The value mentioned relates to the active ingredient, deltamethrin.
EC₅₀ 44 µmol/L
The value mentioned relates to the active ingredient, piperonyl butoxide.

Bird toxicity: LD₅₀ duck: > 5,000 mg/kg
The value mentioned relates to the active ingredient, deltamethrin.
LD₅₀ quail: > 10,000 mg/kg
The value mentioned relates to the active ingredient, deltamethrin.
LD₅₀ bobwhite quail: > 2,250 mg/kg
The value mentioned relates to the active ingredient, tetramethrin.
LD₅₀ bobwhite quail: >2,250 mg/kg
The value mentioned relates to the active ingredient, piperonyl butoxide.

Bee toxicity: Deltamethrin is toxic to bees: LD₅₀ (oral) 79 ng/bee; (contact) 51 ng/bee
Tetramethrin is toxic to bees.
Piperonyl butoxide is not toxic to bees: LD₅₀ > 25 µg/bee

Other: None

Environmental fate, persistence and degradation: Deltamethrin is highly toxic to fish and aquatic organisms. Deltamethrin is not persistent in the environment. It is destroyed by soil microorganisms and does not leave residues in the environment or build up in the food chain.

13. DISPOSAL CONSIDERATIONS

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 the purpose, clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product safely.

14. TRANSPORT INFORMATION

ADG

According to AU01, Environmentally Hazardous Substances in packagings, IBCs or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

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IMDG

| | |
|--------------------------|--|
| UN-Number | 3082 |
| Labels | 9 |
| Packaging group | III |
| EmS | F-A, S-F |
| Marine pollutant | Marine Pollutant |
| Description of the goods | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN, <i>D</i> -TETRAMETHRIN AND PIPERONYL BUTOXIDE MIXTURE) |

IATA

| | |
|--------------------------|---|
| UN-Number | 3082 |
| Labels | 9 |
| Packaging group | III |
| Description of the goods | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN, <i>D</i> -TETRAMETHRIN AND PIPERONYL BUTOXIDE, MIXTURE) |

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1994.

Australian Pesticides and Veterinary Medicines Authority Approval Number: 45907.

16. OTHER INFORMATION

Trademark information: Crackdown® is a Registered Trademark of Bayer.

Preparation information: Replaces edition September 28th, 2006.
Reason for update: Renewal due.

Data sources: Bayer CropScience European product safety data sheet.

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