

MATERIAL SAFETY DATA SHEET



Emergency Phone: 1800-033-882 (24 hrs)
Dow AgroSciences Australia Ltd.
Frenchs Forest NSW 2086

TROJAN* INSECTICIDE

Effective Date: 4 July 2007
Product Code: 17875

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Trojan* Insecticide

PURPOSE: Agricultural insecticide

COMPANY IDENTIFICATION:

Dow AgroSciences Australia Ltd.
ABN 24 003 771 659
Level 5, 20 Rodborough Road,
Frenchs Forest NSW 2086

Customer Service Toll Free Number:
1800 700 096
(Mon-Fri, 8am-5pm EST)

Emergency Telephone Number:
1800 033 882
(24 hours) (EMERGENCIES ONLY)
Transport Emergency Only Dial 000

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Classified as hazardous according to the criteria of NOHSC
Not Classified as Dangerous Goods for Land Transport (see Section 14)

Potential Health Effects: May cause moderate eye injury and/or slight skin irritation. May cause allergic reactions.

RISK PHRASES:

R20: Harmful by inhalation.
R38: Irritating to skin.
R43 May cause sensitization by skin contact
R65: Harmful: may cause lung damage if swallowed.
R50/53: Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
R57: Toxic to bees.

SAFETY PHRASES:

S2: Keep out of the reach of children.
S23: Do not breathe vapour or spray.
S24/25: Avoid contact with skin and eyes.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container for label.
S61: Avoid release to the environment. Refer to special instructions below in sections 6,7 and 13.

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Ingredient	CAS #	Content
Gamma-Cyhalothrin	76703-62-3	14.4%
Solvent naphtha, (petroleum), heavy aromatic	64742-94-5	≤10.0%
Balance not contributing to hazard		>60.0%

4. FIRST AID:

Consult the Poisons Information Centre (131126) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

EYE: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call the Poison Information Centre or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.

INGESTION: Immediately call the Poison Information Centre or doctor. Do not induce vomiting unless told to do so by the Poison Information Centre or doctor. Do not give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call 000 or ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call the Poison Information Centre or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

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NOTE TO DOCTOR: If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. Maintain adequate ventilation and oxygenation of the patient. Treatment is entirely supportive and symptomatic, with atropine for control of secretions, and benzodiazepines for control of tremor or seizures. Topical application of Vitamin E oil to skin following decontamination may relieve persistent stinging. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling the Poison Information Centre or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >100°C (SCC) aqueous suspension

COMBUSTIBLE: C1

FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

EXTINGUISHING MEDIA: Water spray or foam for large fires. Dry chemical or carbon dioxide for small fires.

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

FIRE-FIGHTING EQUIPMENT: Use a positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply and full protective equipment.

HAZCHEM: 1X

6. ACCIDENTAL RELEASE MEASURES:

Do not touch or walk through spilled material. Wear a face-shield or goggles, overalls buttoned to neck and wrist, chemical resistant gloves and footwear. Stop leak when safe to do so. Dam the area and prevent entry into waterways, and drains. **Small spills/leaks:** Absorb with material such as sand, soil or sawdust. Collect spilled product and place in sealable container for disposal. Spill residues may be cleaned using water and detergent. Contain and absorb wash water for disposal. Absorb and

collect washings and place in the same sealable container for disposal. Dam the area of **large spills/leaks** and report them to Dow AgroSciences Emergency Services at 1800-033-882.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Keep out of reach of children. Harmful if swallowed, inhaled, or absorbed through skin. Causes eye and skin irritation. Avoid contact with eyes, skin and clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

STORAGE: Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. Do not store with food, feedstuffs, fertilizers and seeds. See product label for further handling/storage precautions relative to the end use of this product. Reduce stacking height where local conditions can affect packaging strength.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: Aromatic solvent (petroleum solvent): None established. Supplier recommends a guideline of 100 ppm for the total product, which is a mixture of aromatic hydrocarbons. Aromatic solvent may contain naphthalene: ASCC TWA is 10 ppm (52mg/m³), 15 ppm (79mg/m³) STEL.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Remove contaminated clothing immediately, wash

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skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly. Use gloves chemically resistant to this material e.g. Viton, Polyethylene, Neoprene, Chlorinated polyethylene, Nitrile/butadiene rubber (Nitrile or NBR), Ethyl vinyl alcohol laminate (EVAL). Avoid gloves made of Polyvinyl alcohol (PVA).

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. The following should be effective types of air-purifying respirators: organic vapour cartridge with a particulate pre-filter.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Off-white liquid
ODOUR: Gasoline-like
SPECIFIC GRAVITY: 1.0216 @ 20°C
DENSITY: 1.0198 g/mL @ 20°C
pH: 5.71

10. STABILITY AND REACTIVITY:

STABILITY: Stable under normal use and storage conditions.

INCOMPATIBILITY: (specific materials to avoid) Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, hydrogen chloride, hydrogen fluoride, nitrogen oxides, hydrogen cyanide, and various chlorinated and fluorinated organic compounds.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause moderate eye irritation. Corneal injury is unlikely.

SKIN: Brief contact may cause slight skin irritation with local redness. May cause drying or flaking of the skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts. For a similar material, the LD₅₀ for skin absorption in rats is >5000 mg/kg. Similar materials have been shown to cause allergic skin reactions when tested in guinea pigs.

INGESTION: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. May cause central nervous system effects. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. The oral LD₅₀ for rats for a similar material is between 2250 mg/kg (males) and 2646 mg/kg (females).

INHALATION: Prolonged excessive exposure may cause adverse effects. May cause central nervous system effects. The aerosol LC₅₀ for rats for a similar material is >2.72 mg/L (males) and 2.54 mg/L (females).

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For the active ingredient, excessive exposure may cause neurological signs and symptoms. For the solvent, in animals, effects have been reported on the following organs: respiratory tract, gastrointestinal tract, thyroid, and urinary tract. May contain naphthalene: cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapour or dust.

CANCER INFORMATION: May contain naphthalene, which has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

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TERATOLOGY (BIRTH DEFECTS): The active ingredient did not cause birth defects or other effects in the foetus even at doses which caused toxic effects to the mother. The solvent did not cause birth defects or any other foetal effects in laboratory animals.

REPRODUCTIVE EFFECTS: For the active ingredient, in animal studies, a similar material has been shown not to interfere with reproduction.

MUTAGENICITY: For a similar material, in-vitro genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL DATA:

MOVEMENT & PARTITIONING: Bioconcentration potential is high (BCF is >3000 or Log P_{ow} between 5 and 7).

DEGRADATION & PERSISTENCE: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

ECOTOXICOLOGY: Based largely or completely on information for a similar material.

Material is very highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is <0.1 mg/L in the most sensitive species tested).

Material is practically non-toxic to birds on an acute basis (LD₅₀ is >2000 mg/kg).

Acute oral LD₅₀ in honeybee (*Apis mellifera*) is 1.259 µg/bee.

Acute contact LD₅₀ for honeybee (*Apis mellifera*) is 0.030 µg/bee.

The LC₅₀ for earthworm (*Eisenia foetida*) is >1000 mg/kg.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with

applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

ROAD AND RAIL TRANSPORT: Not classified as Dangerous Goods for transport by road or rail.

SEA AND AIR TRANSPORT: Classified as dangerous goods for transport by sea and air in accordance with the International Maritime Dangerous Goods Code (IMDG) and the International Air Transport Association (IATA) Dangerous Goods Regulation.

UN No: 3082

Class: 9

Packing group: III

SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.(Gamma-Cyhalothrin).
Marine Pollutant

15. REGULATORY INFORMATION:

APVMA APPROVAL NUMBER: 56175

POISON SCHEDULE: 5

16. OTHER INFORMATION:

Glossary

ACGIH: American Conference of Governmental Industrial Hygienists.

ASCC: Australian Safety and Compensation Council.

BCF: Bioconcentration Factor - a measure for the characterization of the accumulation of a chemical in an organism. It is defined as the concentration of a chemical in an organism (plants, microorganisms, animals) divided by the concentration in a reference compartment (e.g. food, surrounding water).

BOD: Biochemical oxygen demand. The amount of oxygen required by aerobic microorganisms to decompose the organic matter in a sample of water, such as that polluted by sewage. It is used as a measure of the degree of water pollution. Also called biological oxygen demand.

Dow AgroSciences Industrial Hygiene Guideline: An internal company standard based on an 8 hour TWA.

EC₅₀: median effective concentration. Statistically derived concentration of a substance in an environmental medium

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expected to produce a certain effect in 50% of test organisms in a given population under a defined set of conditions.

Explosive Limits: The range of concentrations (% by volume in air) of a flammable gas or vapour that can result in an explosion for ignition in a confined space.

K_{oc}: the organic carbon partition coefficient (mL soil water /g organic carbon).

K_{ow}: See P_{ow}

LC₅₀: Lethal Concentration 50%. A concentration of chemical in air or water that will kill 50% of the test organisms.

LD₅₀: Lethal Dose-50%. The doses of a chemical that will kill 50% of the test animals receiving it.

NIOSH: American national Institute of Occupational Safety and Health, a federal agency which conducts research on occupational safety and health questions and recommends new standards.

NOHSC: National Occupational Health and Safety Commission of Australia now the Office of the Australian Safety and Compensation Council.

OASCC: Office of the Australian Safety & Compensation Commission.

OSHA: American Occupational Safety and Health Administration.

PEL: Permissible Exposure Level, a maximum allowable exposure level by law.

pH: Measure of how acidic or alkaline a material is using a 1 - 14 scale. pH 1 is strongly acidic and pH 14 strongly alkaline.

Polymerisation: a chemical reaction in which small molecules (monomers) combine to form much larger molecules (polymers). A hazardous polymerisation reaction is one that occurs at a fast rate and releases large amounts of energy.

P_{ow}: The octanol-water partition coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter. This parameter is used in many environmental studies to help determine the fate of chemicals in the environment.

STEL: Short-Term Exposure Limit. A term used to indicate the maximum average concentration allowed for a continuous 15 minute exposure period.

TLV: Threshold Limit Value, an exposure limit set by a competent authority

TWA: Time Weighted Average. The average concentration of a chemical in air over the total exposure time - usually an 8-hour workday.

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References

AS/NZS 1715-1994 Selection Use and Maintenance of Respiratory Protective Devices.

ASNZS 1716 - 1994 Respiratory protective devices.

Australian Dangerous Goods Code

International Maritime Dangerous Goods Code.

International Air Transport Association (IATA) Dangerous Goods Regulation

NOHSC Hazardous Substances Information System.

VERSION TRACKING

Replaces version dated: 24 March 2004

Sections amended: All

Product code: GF-1060

FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 1800 700 096 DURING BUSINESS HOURS.

This MSDS has been compiled using publicly available information, information provided by suppliers of ingredients used in the product and internal studies on the product and/or its ingredients.

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 BASED ON PUBLICLY AVAILABLE AND INTERNALLY AVAILABLE INFORMATION. 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. THE 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.

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