

MATERIAL SAFETY DATA SHEET



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

LONTREL* HERBICIDE

Effective Date: 15 March 2007
Product Code: 45496

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Lontrel* Herbicide

PURPOSE: Herbicide

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

Not Classified as hazardous according to the criteria of NOHSC

Not Classified as Dangerous Goods for Land Transport

Potential Health Effects: Skin and eye irritation.

RISK PHRASES:

None applicable.

SAFETY PHRASES:

S2: Keep out of the reach of children.
S24/25: Avoid contact with skin and eyes.
S35: This material and its container must be disposed of in a safe way.

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Ingredient	CAS #	Content
Clopyralid TIPA Salt:	1702-17-6 (acid)	~51%
Balance not classified as hazardous		~49%

4. FIRST AID:

Consult the Poisons Information Centre (Australia 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: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

SKIN: Wash skin thoroughly with soap and water. Remove contaminated clothing and shoes while washing. Wash clothing before reuse.

INGESTION: Call a physician or the Poisons Information Centre immediately. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: None (water based)

COMBUSTIBLE: Not combustible

FLAMMABLE LIMITS

LFL: Not applicable
UFL: Not applicable

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EXTINGUISHING MEDIA: Water fog, foam, alcohol foam, CO₂, dry chemical.

FIRE AND EXPLOSION HAZARDS: Noxious fumes under fire conditions. Contain water from fire fighting to prevent entry to surface and ground water.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure self-contained breathing apparatus and full-protective clothing.

HAZCHEM: 2X

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: DO NOT touch or walk through spilled material. Wear a face shield or goggles, overalls buttoned to neck and wrist, chemical resistant gloves and boots. Stop leak when safe to do so. Dike 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. Dike the area of large spills and report them to Dow AgroSciences at 1800-033-882.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Keep out of reach of children. Causes eye and skin irritation. Avoid contact with eyes, skin and clothing. After work, remove protective clothing and equipment, wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Clean up spilled material immediately, and wash clothes, equipment and work area after use.

STORAGE: Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. This product can be stored in an unheated building. 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.

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:

Clopyralid acid: Dow AgroSciences Industrial Hygiene Guide is 10 mg/m³ (skin).

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

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 safety glasses.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items, such as faceshield, gloves, boots, apron, or full body suit will depend on the operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator for organic vapours.

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Green or blue liquid

ODOUR: None

pH: 6-8 undiluted

BOILING POINT: 100 – 105°C

VAPOUR PRESSURE: 1.2 x 10⁻⁵ mmHg @ 25°C
(clopyralid acid)

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SPECIFIC GRAVITY: 1.17 @ 20°C
SOLUBILITY IN WATER: Miscible

10. STABILITY AND REACTIVITY:

STABILITY: Stable under normal storage conditions. Not flammable.

INCOMPATIBILITY: (specific materials to avoid) Acids, bases, oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Noxious fumes under fire conditions - hydrogen chloride and others.

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 slight temporary eye irritation. Corneal injury is unlikely.

SKIN: Prolonged contact may cause skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LD₅₀ for skin absorption in rabbits is >2000 mg/kg.

INGESTION: Low toxicity if swallowed. For a similar material, clopyralid acid, the oral LD₅₀ for rats is >5000 mg/kg. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

INHALATION: No adverse effects are anticipated from single exposure to vapour or mist. The inhalation LC₅₀ for rats is >1000 mg/m³ for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For a similar material, clopyralid acid, in animals, effects have been reported on the following organs: heart, kidney, and liver.

CANCER INFORMATION: A similar material, clopyralid acid, did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): A similar material, clopyralid acid, caused birth defects in test animals, but

only at greatly exaggerated doses that were severely toxic to the mothers. No birth defects were observed in animals given clopyralid at doses several times greater than those expected during normal exposure.

REPRODUCTIVE EFFECTS: For a similar material clopyralid acid, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent.

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

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

Based largely or completely on information for clopyralid acid.

MOVEMENT & PARTITIONING:

Clopyralid is weakly sorbed (Mean K_{oc} ~5 mL/g) indicating potential for mobility

DEGRADATION & PERSISTENCE:

Clopyralid is hydrolytically stable and photochemical degradation is slow (half-life 19.5 days). Clopyralid is not readily biodegradable under the conditions of the EU Ready Biodegradability test EEC method C5, OECD No. 301B). Clopyralid rapidly degrades to CO₂ in the soil (field half-life 2- 24 days). Degradation is retarded under cold conditions or very dry soils. Clopyralid slowly degrades in water/sediment systems (half-life 143 – 182 days).

ECOTOXICOLOGY:

Based largely or completely on information for clopyralid acid.

Material is toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is 6.9 mg/L in most sensitive species - algae).

Material is slightly toxic to birds on an acute basis (LD₅₀ is 1465 mg/kg. Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5000 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 regulations. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the

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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 and rail by the criteria of the Australian Dangerous Goods Code (ADG 6),

MARINE and AIR: Classified as Dangerous Goods for transport by sea and air according to the criteria of the UN Model Regulations for Transport of Dangerous goods 13th Edition and IMDG code.

UN No: 3082

Class: 9

Packing group: III

SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CLOPYRALID)

15. REGULATORY INFORMATION:

APVMA APPROVAL NUMBER: 58761

POISON SCHEDULE: S5

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

EEL: Environmental exposure standard set by ERMA

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

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

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.

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 FUTURE 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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