

Material Safety Data Sheet

Lontrel* 360 Herbicide

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In Case of Emergency Call (519) 339 3711

1. Product Identification:**Product name:** Lontrel* 360 Herbicide**Product code numbers:** 45487**GMID numbers:** 23851**MSDS number:** DASCII-072**Effective date:** June 16, 1999**Date printed:** June 16, 1999**Supplier:**

Dow AgroSciences Canada Inc.

1144 - 29 Avenue N.E.

Calgary, Alberta,

Canada, T2E 7P1

www.dowagro.ca**This product is regulated under the Pest Control Products Act****2. Composition:**

Component	CAS number	%(w/w)
Clopyralid (as monoethanolamine salt)	057754-85-5	40.9
Inert ingredients		59.1
Including:		
Isopropyl alcohol	000067-63-0	
Polyglycol 26-2	069029-39-6	

3. Hazard Identification:**Emergency Overview:**

This product is a reddish-brown clear liquid with a sweet odor. Prolonged exposure may cause skin irritation. Slight transient corneal injury may occur. Prolonged exposure may cause skin irritation.

Potential Health Effects:

Eyes: This product may cause very slight transient corneal injury. Vapors may irritate eyes.

Skin contact: Prolonged exposure may cause moderate skin irritation. Repeated contact may cause drying or flaking of skin.

Skin absorption: A single prolonged exposure is not likely to result in this material being absorbed in harmful amounts.

Ingestion: No hazards anticipated from swallowing small amounts incidental to normal handling operations.

Inhalation: Excessive vapor concentrations of isopropanol are attainable and could be hazardous on a single exposure. Excessive exposure (400 ppm) to isopropanol may cause eye, nose, and throat irritation. Incoordination, confusion, hypotension, hypothermia, circulatory collapse, respiratory arrest, and death may follow longer duration or higher levels of exposure to isopropanol. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol.

4. First Aid Measures:

Eyes: Flush eyes with plenty of water.

Skin: Wash in flowing water or shower.

Ingestion: Do not induce vomiting unless instructed to do so by qualified medical personnel. Get medical attention.

Inhalation: Remove individual to fresh air. If breathing is difficult, oxygen should be administered by qualified personnel. If breathing difficulty continues, get expert medical attention.

Note to physician: There is no specific antidote. Employ supportive care. Treatment should be based on the judgment of the physician in response to the reactions of the patient.

5. Fire-fighting Measures:

Flash point: 47°C (TCC)

Flammable limits: Not available

Auto-ignition temperature: Not available

Extinguishing media: Water fog, foam (alcohol resistant AFFF at 3% or 6%), CO₂, dry chemical. Foam is preferred.

Sensitivity to mechanical impact/static discharge: Not available

Unusual fire and explosion hazards: This product is a water-based solution and except under gross fire conditions, it should not burn. Contain fire-fighting water for future disposal. Noxious fumes are created under fire conditions.

Fire-fighting equipment: Wear positive-pressure self-contained breathing apparatus and full turn-out gear.

6. Accidental Release Measures:

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Soak up spills with absorbent material. Dike area in case of large spills. Do not use water for cleanup. Clopyralid is a herbicide that acts on many broadleaf plants. Avoid contaminating soil near desirable vegetation. Do not allow spilled material to contaminate water supplies. Dike area and notify Dow AgroSciences if large amounts of product are involved in the spill.

7. Handling and Storage:

Handling: Keep out of reach of children and animals. Do not swallow. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing.

Storage: This product is combustible. Do not use or store this product near a heat source, open flame or other sources of ignition, particularly if storage temperatures are near the flash point (47°C). Keep container closed when not in use. Do not ship with foodstuffs, feed, seed, drugs or clothing.

8. Exposure Controls, Personal Protection and Exposure Limits:**Exposure limits:**

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

Isopropyl alcohol: ACGIH TLV and OSHA PEL are 400 ppm TWA, 500 ppm STEL.

Polyglycol: Dow Industrial Hygiene Guide is 2 mg/m³.

Engineering controls: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Use only with adequate ventilation.

Respiratory protection: Atmospheric levels should be maintained below the exposure guidelines. 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 greatly exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved positive-pressure or supplied-air respirator.

Protective clothing: For brief contact during manufacture, warehousing and transport, wear clean body-covering clothing. During operations

where exposure to the concentrated product may occur, use protective clothing impervious to this product. Use of items made of heavy-duty neoprene or nitrile rubber is suggested. Selection of specific items such as face shield, respirator, boots, gloves, apron or full body suit will depend on the operation being carried out. Applicators and other field handlers, including persons repairing or cleaning application equipment, must wear clean body-covering clothing, impervious gloves and boots. In addition, an impervious apron must be worn by persons making and/or transferring field dilutions of this product.

Eyes: Use safety glasses. If vapor exposure causes eye discomfort, use an approved full-face respirator.

Other protection: None specified

9. Physical and Chemical Properties:

Boiling point: 100°C

Vapor pressure: 23.5 mm Hg at 20°C

Volatility: 1.06 at 20°C

pH: 7.5 to 8.0

Appearance: Reddish-brown liquid

Odor: Sweet

Coefficient of water/oil distribution: Not available

Specific gravity: 1.161 at 20°C

Evaporation rate: Not available

Solubility in water: Miscible

Freezing point: Not available

Odor threshold: Not available

Melting point: Not applicable

10. Stability and Reactivity:

Stability: Store under cool, dry conditions.

Avoid elevated temperatures and direct sunlight. Do not use or store near heat, open flame or other sources of ignition, especially if air temperatures are near the flash point (47°C).

Incompatibility: Avoid acids, oxidizing materials, halogenated organics, brass, copper, zinc (including galvanized metals) and aluminum.

Hazardous decomposition products:

Hydrogen chloride, nitrogen oxides (under fire conditions), chlorinated pyridine.

Hazardous polymerization: Does not occur

11. Toxicological Information:

Skin absorption: Lontrel 360 LD50 (rabbit) is >5000 mg/kg.

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Ingestion: Lontrel 360 LD50 is >5000 mg/kg.

Inhalation: The maximum practically - attainable concentration of this product in the tests (3.0 mg/L for four hours) produced no ill effects in test animals.

Sensitization: This product may rarely cause an allergic skin response.

Chronic effects: In animals, effects have been reported on the following organs: liver and kidney. Observations in animals include lethargy. For isopropanol: kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Cancer: The components of this formulation did not cause cancer in laboratory animals.

Birth defects: Clopyralid 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. Isopropyl alcohol at extremely high concentrations has been reported to cause birth defects and fetal toxicity in rats. At lower concentrations there were no effects on the fetus.

Reproductive effects: In animal studies the components of this formulation have been shown not to interfere with reproduction.

Mutagenicity: *In vitro* and animal mutagenicity studies for the components of this formulation were negative.

12. Ecological Information:

Clopyralid is considered not toxic to bees. Based largely or completely on information for clopyralid, Lontrel 360 is practically non-toxic to aquatic organisms on an acute basis, and is practically non-toxic to birds on a dietary basis. Clopyralid is slightly toxic to birds on an acute basis. For more complete eco-toxicological information, contact Dow AgroSciences at 800 667 3852.

Degradation and Metabolism:

In soil: Microbial degradation is the major route of degradation of clopyralid. Carbon dioxide is the major product of degradation, with only traces of one other metabolite having been recorded. The half-life of clopyralid in laboratory studies ranges from 14 to 56 days. Field dissipation and lysimeter studies show that

potential for groundwater contamination is minimal.

In plants: Clopyralid is not metabolized in plants.

In animals: In rats, following oral administration of clopyralid, there is rapid and almost complete elimination in the urine.

13. Disposal Considerations:

Dispose in secure landfills or by registered use, in compliance with all applicable federal, provincial and municipal laws and regulations. If these wastes cannot be disposed of according to label instructions, contact the Provincial or Federal Department of Environment for guidance.

14. Transport Information:

Transportation of Dangerous Goods Act classification for this product may be obtained by contacting the Dow AgroSciences Solutions Center at 800 667 3852.

15. Regulatory Information:

Pest Control Products Act registration number: 23545

For information phone: 800 667 3852

Master reference: 2805

MSDS status: Revised sections:

- 3. Hazard Identification
- 4. First Aid Measures
- 8. Exposure Controls, Personal Protection and Exposure Limits
- 9. Physical and Chemical Properties
- 11. Toxicological Information
- 12. Ecological Information

Replaces MSDS dated: October 30, 1998

16. Other Information

National Fire Code classification: Class II

NFPA rating: Health: 1; Flammability: 2;

Reactivity: 1.

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