

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** Thistledown®  
**EPA Reg. No.:** 228-491-54705  
**Product Type:** Herbicide  
**Company Name:** Lawn and Garden Products, Inc.  
PO Box 35000  
Fresno, CA 93745  
1-559-499-2100

**Telephone Numbers:** For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,  
Call CHEMTREC Day or Night: 1-800-424-9300  
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

**2. HAZARDS IDENTIFICATION****PHYSICAL HAZARDS:**

Not Hazardous

**HEALTH HAZARDS:**

Not Hazardous

**ENVIRONMENTAL HAZARDS:**

Not Hazardous

**SIGNAL WORD:**

None

**HAZARD STATEMENTS:**

Not Hazardous in accordance with 29CFR1910.1200 and the GHS.

**PRECAUTIONARY STATEMENTS**

None required

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NO.	% BY WEIGHT
Clopyralid, monoethanolamine salt	57754-85-5	39.7 – 42.1
Isopropanol	67-63-0	1-5
Other Ingredients	Trade Secret	Trade Secret

**Synonyms:** 3,6-Dichloropicolinic acid, ethanolamine salt

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

**4. FIRST AID MEASURES**

**If on Skin or Clothing:** Take off contaminated clothing. Wash with soap and water. Get medical attention if irritation or symptoms develop.

**If in Eyes:** Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation persists. **If Inhaled:** Move person to fresh air. If symptoms develop, get medical advice.

**If Swallowed:** Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. If symptoms develop, get medical advice.

**Most Important symptoms/effects:** Exposure to the skin may cause mild irritation.

**Indication of Immediate medical attention and special treatment if needed:** Immediate medical attention is generally not required. For ingestion there is no specific antidote available. Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Unusual Fire and Explosion Hazards:** This product contains a small amount of isopropanol. Flammable vapors may accumulate in confined areas. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

**Hazardous Decomposition Materials (Under Fire Conditions):** May produce gases such as hydrogen chloride, oxides of nitrogen and chlorinated pyridine.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

**Methods for Containment:** Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

**Methods for Clean-Up and Disposal:** Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

## 7. HANDLING AND STORAGE

### HANDLING:

Avoid contact with eyes, on skin and clothing. Users should wash hands, face, and arms with soap and water before eating, smoking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### STORAGE:

Always use original container to store pesticides in a secured warehouse or storage building. Protect from freezing. Store at temperatures above 28° F. Protect product from freezing. If allowed to freeze, warm to 40°F, and agitate before using. This does not alter the product. Containers should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides. Do not contaminate water, food or feed by storage or disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation. Maintain exposure levels below the occupational exposure limits listed below.

### Personal Protective Equipment:

**Eye/Face Protection:** To avoid contact with eyes, wear goggles or safety glasses. **Skin Protection:** To avoid contact with skin, wear long pants, long-sleeved shirt, and shoes plus socks. When mixing, loading or using any hand-held equipment, wear chemical-resistant gloves. Washing facilities should be readily accessible to the work area.

**Respiratory Protection:** Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against organic vapors and pesticides.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

**Exposure Guidelines:**

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Clopyralid monoethanolamine salt	NE	NE	NE	NE	
Isopropanol	400	NE	200	400	ppm
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Dark brown liquid
<b>Odor:</b>	Mild
<b>Odor threshold:</b>	No data available
<b>pH:</b>	6.37 @ 25° C
<b>Melting point/freezing point:</b>	No data available
<b>Initial boiling point and boiling range</b>	No data available
<b>Flash point:</b>	> 200° F (>93.3° C) aqueous mixture
<b>Evaporation rate:</b>	Not applicable
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower flammability or explosive limits:</b>	No data available
<b>Vapor pressure:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Relative density:</b>	1.17 g/mL @ 20° C
<b>Solubility(ies):</b>	No data available
<b>Partition coefficient: n-octanol/water:</b>	No data available
<b>Autoignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Viscosity:</b>	5.397 cSt @ 20° C; 2.764 cSt @ 40° C
<b>VOC Emission Potential (%):</b>	7.64

**Note:** Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

## 10. STABILITY AND REACTIVITY

**Reactivity:** This product is not normally reactive.

**Chemical Stability:** This material is stable under normal handling and storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Avoid temperatures above 115° F (46° C) and excess moisture conditions. Keep away from heat, sparks and open flame. Minimize dust generate and accumulation.

**Incompatible Materials:** Acidic and oxidizing materials, halogenated organics, brass, copper, zinc and aluminum metals.

**Hazardous Decomposition Products:** Under fire conditions may produce gases such as hydrogen chloride, oxides of nitrogen and chlorinated pyridine.

## 11. TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, eye and skin contact.

**Eye Contact:** Minimally irritating to the eye.

**Skin Contact:** May cause irritation on prolonged or repeated exposure. Mildly irritating in toxicity studies.

**Ingestion:** Low toxicity if swallowed.

**Inhalation:** Low toxicity if inhaled.

**Delayed, immediate and chronic effects of exposure:** None known

**Toxicological Data:**

Data for this product:

**Oral:** Rat LD<sub>50</sub>: >5,000 mg/kg

**Dermal:** Rat LD<sub>50</sub>: >5,000 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: >2.13 mg/L (no mortalities at highest dose tested)

**Eye Irritation:** Rabbit: Minimally irritating

**Skin Irritation:** Rabbit: Moderately irritating (PDII=2.7). Means scores for erythema/edema below 1.5 – not classified as a skin irritant under the GHS.

**Skin Sensitization:** Not a contact sensitizer in guinea pigs following repeated skin exposure.

**Subchronic (Target Organ) Effects:** Excessive exposure to clopyralid may cause effects to liver and kidneys.

**Carcinogenicity / Chronic Health Effects:** Clopyralid did not cause cancer in laboratory animal studies.

**Reproductive Toxicity:** In animal studies, clopyralid did not interfere with reproduction.

**Developmental Toxicity:** Clopyralid caused birth defects in test animals, but only at 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.

**Genotoxicity:** *In-vitro* and animal genetic toxicity studies with clopyralid were negative.

**Assessment Carcinogenicity:** None listed with ACGIH, IARC, NTP or OSHA.

## 12. ECOLOGICAL INFORMATION

### Environmental Hazards:

Based on information for clopyralid, product is practically non-toxic to aquatic organisms on an acute basis, practically non-toxic to birds on a dietary basis, and slightly toxic to birds on an acute basis.

### Ecotoxicity:

Data on Clopyralid Acid Technical:

<b>Bluegill</b> 96-hour LC <sub>50</sub> :	>100 mg/l	<b>Bobwhite Quail</b> 8-day Dietary LC <sub>50</sub> :	>4,640 ppm
<b>Rainbow Trout</b> 96-hour LC <sub>50</sub> :	>100 mg/l	<b>Mallard Duck</b> Oral LD <sub>50</sub> :	1,465 mg/kg
<b>Daphnia</b> 48-hour EC <sub>50</sub> :	232 mg/l	<b>Mallard Duck</b> 8-day Dietary LC <sub>50</sub> :	>4,640 ppm
<b>Honey Bee</b> Oral LD <sub>50</sub> :	100 µg/bee		

### Environmental Fate:

The bioconcentration for clopyralid is low (BCF <100 or Log Pow <3). Potential for mobility in the soil is very high (Koc between 0 and 50). Biodegradation under aerobic laboratory conditions is below detectable limits. Under aerobic soil conditions, the half-life of clopyralid is 71 days. Clopyralid is not significantly degraded by sunlight.

## 13. DISPOSAL CONSIDERATIONS

### Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Nonrefillable Containers 5 Gallons or Less:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

**Nonrefillable containers larger than 5 gallons:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the

container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable containers larger than 5 gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

#### 14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

**DOT:**

Non Regulated

**IMDG:**

Non Regulated

**IATA:**

Non Regulated

#### 15. REGULATORY INFORMATION

##### EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Avoid contact with eyes, skin or clothing.

##### U.S. FEDERAL REGULATIONS

**TSCA Inventory:** This product is exempted from TSCA because it is solely for FIFRA regulated use.

**SARA Hazard Notification/Reporting:**

**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Not Hazardous

**Section 313 Toxic Chemical(s):**

None

**Reportable Quantity (RQ) under U.S. CERCLA:**

None

**RCRA Waste Code:**

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** Not Listed.

#### 16. OTHER INFORMATION

**National Fire Protection Association (NFPA) Hazard Rating:**

**Rating for this product: Health: 1 Flammability: 1 Reactivity: 0**

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and

## SAFETY DATA SHEET

Thistledown®

others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Lawn and Garden Products, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Lawn and Garden Products, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

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