

MATERIAL SAFETY DATA SHEET

SALVO® POSTEMERGENCE BROADLEAF HERBICIDE

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

FORMULATED FOR:

LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300
Medical Emergencies: 1-866-944-8565
U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: SALVO® POSTEMERGENCE BROADLEAF HERBICIDE
CHEMICAL NAME: Isooctyl (2-ethylhexyl) ester of 2,4-Dichlorophenoxyacetic Acid; 2-4,D Low Vol; 2,4-D LV
CHEMICAL FAMILY: Phenoxy Herbicide
EPA REG. NO.: 34704-609
MSDS Number: 00609-12-LPI MSDS Revisions: Sections 1, 4, 8, 13, and 14 Date of Issue: 11/06/12 Supersedes: 07/29/08

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN - CAUTION - Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. This product is a light amber, oily liquid with mild characteristic phenoxy herbicide odor.

NOTE TO PHYSICIAN: No specific antidote is available. All treatment should be based on observed signs and symptoms of distress in the patient.
POTENTIAL ADVERSE HEALTH EFFECTS:
Eye Contact: Prolonged exposure may cause moderate eye irritation. Corneal injury is unlikely.
Skin contact: Harmful if absorbed through the skin.
Ingestion: Harmful if swallowed. May lead to rapid onset of nausea, vomiting, abdominal pain, diarrhea, pinpoint pupils, blurred vision, profuse sweating, salivation, tremor, muscle twitching, and temporary paralysis. In severe cases respiratory depression and convulsions may occur. Contact a physician if material is ingested. Medical emergency telephone number is: 1-866-944-8565.
Inhalation: Harmful if inhaled. May cause dizziness, headaches, nausea and vomiting. Sprays (mists) are irritating to the respiratory tract. Contact a physician if material is inhaled and breathing is difficult.

3. COMPOSITION, INFORMATION ON INGREDIENTS

Table with 4 columns: Chemical Ingredients, Percentage by Weight, CAS No., TLV (Units). Rows include Isooctyl (2-ethylhexyl) ester of 2,4-D Acid and Inert ingredients.

4. FIRST AID MEASURES

If swallowed: Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. 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 on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye. Call a poison control center or doctor for treatment advice.
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F/Test Method): 185°F / 85°C (TCC)
FLAMMABLE LIMITS (LFL & UFL): Not established
EXTINGUISHING MEDIA: Considered combustible, use medium appropriate to surrounding fire. Dry chemical, carbon dioxide, foam, water spray or fog.
HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition products include, but are not limited to, oxides of nitrogen and carbon.
SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool containers exposed to fire. Remain upwind. Avoid breathing smoke. Wear self-contained breathing apparatus and full protective gear. If possible allow fire to burn.
UNUSUAL FIRE AND EXPLOSION HAZARDS: No additional information.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Absorb and sweep up liquid spills immediately and transfer to suitable containers for possible land application according to label use or for disposal. Check local, state and federal regulations for proper disposal.
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

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**7. HANDLING AND STORAGE**

**HANDLING:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove 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:** Containers with screw caps should be closed tightly when not in use. If this product is stored below freezing, it is suggested that it be allowed to warm to at least 40°F/4.5°C and be agitated before use. Open dumping is prohibited. Avoid contamination of fertilizers, seeds, plants, insecticides, and fungicides in storage. It is preferable to store all pesticides in a locked area. Do not contaminate water, food or feed by storage or disposal.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Pilots must use an enclosed cockpit that meets with requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240 (d)(6)].

**RESPIRATORY PROTECTION:** Not normally required, if vapors or dusts exceed acceptable levels, wear a MSHA/NIOSH approved pesticide respirator.

**EYE PROTECTION:** Chemical goggles or shielded safety glasses.

**SKIN PROTECTION:** Wear protective clothing as dictated by workplace conditions: long-sleeved shirts and pants, hat, rubber boots with socks. Wear rubber or chemical-resistant gloves.

	<b>OSHA PEL 8 hr TWA</b>	<b>ACGIH TLV-TWA</b>
2,4-D	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

**Personal Protective Equipment: All mixers, loaders, applicators, flaggers, and other handlers must wear:** long sleeved shirt and long pants, shoes plus socks, chemical resistant gloves, except for pilots, chemical-resistant apron for mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE AND ODOR:</b> Light amber, oily liquid with mild characteristic phenoxy herbicide odor	<b>SOLUBILITY:</b> Emulsifies
<b>SPECIFIC GRAVITY (Water = 1):</b> 1.1039 g/ml avg.	<b>BULK DENSITY:</b> 9.21 lbs/gal. avg.
<b>VAPOR PRESSURE:</b> Not available	<b>BOILING POINT:</b> > 300°F / > 148.9°C
<b>PERCENT VOLATILE (by volume):</b> not established	<b>EVAPORATION RATE:</b> > 1

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable

**CONDITIONS TO AVOID:** Excessive heat.

**INCOMPATIBILITY:** Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** None known; however, some chlorine-containing compounds or other hazardous products may be formed in a fire situation. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiants.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

<b>Acute Oral LD<sub>50</sub> (rat):</b> 1,250 mg/kg	<b>Acute Dermal LD<sub>50</sub> (rabbit):</b> > 2,000 mg/kg
<b>Eye Irritation (rabbit):</b> Causes mild irritation	<b>Skin Irritation (rabbit):</b> May cause mild irritation
<b>Inhalation LC<sub>50</sub> (rat):</b> > 5 mg/L.	<b>Skin Sensitization (guinea pig):</b> Sensitizer

**Carcinogenic Potential:** Chlorophenoxy herbicides are listed as Class 2B carcinogens (limited evidence for carcinogenicity in humans) by the International Agency for Research on Cancer (IARC). The Science Advisory Panel of USEPA has given a Class D classification (not classifiable as to human carcinogenicity) and has required additional animal studies on 2,4-D. Various animal cancer tests have shown no relative association between 2,4-D exposure and cancer. Birth defects are unlikely. In laboratory animals however, exposures having no adverse effects on the mother had harmful effects on the fetus. High dietary levels of 2,4-D caused toxic effects (weight and viability reduction) in rats on a reproduction test. Results of mutagenicity tests in animals have been inconclusive.

**12. ECOLOGICAL INFORMATION**

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and not target plants. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to inter-tidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters.

**13. DISPOSAL CONSIDERATIONS**

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Nonrefillable container: Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrcycle.org](http://www.acrcycle.org). Triple rinse or pressure rinse container (or equivalent) promptly after emptying. For packages up to 5 gallons: 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. 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. For packages greater than 5 gallons and less than 56 gallons: 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. 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. For packages greater than 56 gallons: Triple rinse or 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. Fill the container about 1/4 full with water, rinsing down all sides inside the container thoroughly. Recirculate water with the pump for 2 minutes. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. For refillable containers: 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 mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Do not contaminate water, food or feed by storage or disposal.

**14. TRANSPORT INFORMATION**

**DOT Shipping Description:** 19 GALLONS OR LESS: NOT REGULATED BY USDOT.

**DOT Shipping Description:** 20 GALLONS OR MORE: RQ UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D), 9, III ERG GUIDE 171

**U.S. Surface Freight Classification:** COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS 60)

**Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.**

**15. REGULATORY INFORMATION**

<b>NFPA &amp; HMIS Hazard Ratings:</b>	<b>NFPA</b>		<b>HMIS</b>
	2 Health	0 Least	2 Health
	2 Flammability	1 Slight	2 Flammability
	0 Instability	2 Moderate	0 Reactivity
		3 High	D PPE
		4 Severe	

**SARA Hazard Notification/Reporting**

<b>SARA Title III Hazard Category:</b>	Immediate	<u>Y</u>	Fire	<u>Y</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>Y</u>	Reactive	<u>N</u>		

**Reportable Quantity (RQ) under U.S. CERCLA:** 2,4-D Acid (CAS: 94-75-7): 100 pounds

**SARA, Title III, Section 313:** 2,4-D 2-ethylhexyl ester (CAS: 1928-43-4): 81.8%

**RCRA Waste Code:** U240; D016

**CA Proposition 65:** Not listed

**CAUTION** – 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.

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**16. OTHER INFORMATION**

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**MSDS STATUS:** Sections 1, 4, 8, 13 and 14 revised

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

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