

MATERIAL SAFETY DATA SHEET

CASCADE LV 4

1. **CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**
ALTITUDE CROP INNOVATIONS LLC
4850 Hahns Peak Drive, Suite 200
Loveland, CO 80538

PRODUCT NAME: CASCADE LV 4 **EPA REG. NO.:** 89168-6-91395
CHEMICAL NAME: 2,4-Dichlorophenoxyacetic Acid, 2-Ethylhexyl Ester
CHEMICAL FAMILY: Herbicide
Hotline Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2. **HAZARDS IDENTIFICATION SUMMARY**
KEEP OUT OF REACH OF CHILDREN – CAUTION: Prolonged or frequent repeated skin contact may cause allergic reactions in some individuals. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

3. **COMPOSITION, INFORMATION ON INGREDIENTS**

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
2,4-Dichlorophenoxyacetic Acid, 2-Ethylhexyl Ester	68.0	1928-43-4	10 mg/m3
Other ingredients Including petroleum distillates	32.0	64742-47-8	-----

4. **FIRST AID MEASURES**
If Swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.
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 eye. Call a poison control center or doctor for treatment advice.
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 Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
Note to Physician: Contains petroleum distillate - vomiting may cause aspiration pneumonia.
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT have the product container or label with you when calling a poison control center or doctor.

5. **FIRE FIGHTING MEASURES**
FLASH POINT (^oF/Test Method): >200°F
FLAMMABLE LIMITS (LFL & UFL): Not established
EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, water spray or fog.
HAZARDOUS COMBUSTION PRODUCTS: Toxic fumes may be emitted in a fire situation.
SPECIAL FIRE FIGHTING PROCEDURES: Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Explosive vapor could form from ruptured containers. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.
FIRE FIGHTING EQUIPMENT: Self-contained breathing apparatus with full facepiece. Full fire fighting turn-out gear (Bunker gear).
HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce oxides of carbon, nitrogen and phosphorous.

6. **ACCIDENTAL RELEASE MEASURES**
STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: In case of leak or spill, contain material and dispose as waste. Do not contaminate any body of water. Pick up spilled liquid with absorbent material and sweep up for disposal. Place it and damaged unusable containers in a landfill appropriate for non hazardous chemical waste. Check local, state and federal regulations for proper disposal. **NOTE:** Prevent spilled material from flowing onto adjacent land, or into municipal sewers and open bodies of water. Always wear proper protective equipment when working with the product.

7. HANDLING AND STORAGE

HANDLING: Avoid breathing vapors or spray mist. Wash hands after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove 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: Store in original container, in a dry, secured storage area, away from children and animals. Keep tightly closed. Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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 pesticides.

Personal Protective Equipment (PPE): Long-sleeved shirt and long pants, Shoes plus socks, Chemical-resistant gloves, Chemical resistant apron, and Protective eyewear (goggles, face shield or safety glasses). Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Always refer to the label of the pesticide(s) in the tank mix and follow the most restrictive requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: amber liquid, phenolic odor

SOLUBILITY: Emulsifies **pH:** 3.3 (1%)

SPECIFIC GRAVITY (Water=1): 1.03 – 1.04 g/ml

BULK DENSITY: 8.59 – 8.67 lbs/gal.

VAPOR PRESSURE: Not established

BOILING POINT: Not established

PERCENT VOLATILE (by volume): Not established

EVAPORATION RATE: Not established

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: None Known

IMCOMPATIBILITY: Avoid strong oxidizers or bases; mild and galvanized steel.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: May emit toxic fumes if excessively heated.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀: >1,100 mg/kg (female)

Acute Dermal LD₅₀: >2,000 mg/kg

Eye Irritation: Minimal irritation

Skin Irritation: Causes minimal irritation

Inhalation LC₅₀: >5.00 mg/L

Skin sensitization: Repeated contact may cause sensitization

Carcinogenic Potential: None listed in OSHA, NTP, or ACGIH. IARC Group 2B (Chlorophenoxy Herbicides)

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: This product is toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

13. DISPOSAL CONSIDERATIONS

Do not reuse product containers. Triple rinse (or equivalent), then offer for recycling at an ACRC site (go to <http://www.acrecycle.org/> for locations) or by reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING DESCRIPTION:

<26 gallons per complete package - Not regulated by DOT

≥ 26 gallons and < 119 gallons per complete package –

UN 3082, Environmentally hazardous substance, liquid, n.o.s. (2,4-D Ester), 9, III, RQ

≥119 gallons per complete package

UN 3082, Environmentally hazardous substance, liquid, n.o.s. (2,4-D Ester), 9, III, RQ, Marine Pollutant

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15. REGULATORY INFORMATION

NFPA RATINGS: Least = 0 Slight = 1 Moderate = 2 High = 3 Severe = 4
Ratings for this product: Health – 2 Flammability – 0 Instability – 1 Special Hazards – None Specified

SARA Title III Hazard Category: Immediate Y Fire N Sudden Release of Pressure N
Delayed Y Reactive N

Reportable Quantity (RQ) under U.S. CERCLA: Acetic Acid (2,4-Dichlorophenoxy)- (CAS No. 94-75-7) 100 pounds

SARA, Title III, Section 313: 2,4-D 2-ethylhexyl ester (CAS No. 1928-43-4)- 68% by weight in product

CA Proposition 65: Not listed

16. OTHER

Date of Issue: 01/12/15 Supersedes: New

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