



**Safety Data Sheet**

NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least				Regulated in quantities greater than 26 gallons; see Section 14 for additional information.
1	Slight	2	Health		
2	Moderate	1	Flammability		
3	High	0	Reactivity		
4	Severe				

SECTION 1: IDENTIFICATION	
Product Name: 2,4-D LV4 EPA Registration #: 1381-102 Product ID/Unity #: Common Name: Phenoxy herbicide Chemical Description: 2,4-Dichlorophenoxyacetic acid, 2-ethylhexyl ester Recommended Uses: Agricultural herbicide – See product label for complete list of use sites. Restrictions for Use: See product label for any potential restrictions on use.	
Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	<b>MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs)</b>  Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)
FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL: CHEMTREC 1-800-424-9300 (24 hours)	

SECTION 2: HAZARDS IDENTIFICATION			
<b>EMERGENCY OVERVIEW:</b> Amber liquid with phenolic odor. Harmful if swallowed. Material is slightly toxic to avian and aquatic organisms. Contains petroleum distillates.			
<b>POTENTIAL HEALTH EFFECTS:</b> Eyes: May cause mild eye irritation. Skin: May cause mild skin irritation. Inhalation: May cause mild irritation of the upper respiratory tract. Ingestion: Harmful if swallowed. May cause nausea, gastric upset and diarrhea. Preexisting Conditions: None known Chronic Health Effects: Naphthalene, present at less than 0.1%, is suspected of being a human carcinogen.			
Carcinogenicity	NTP: Naphthalene (Anticipated Human Carcinogen)	IARC: Naphthalene (Group 2B)	OSHA: Not listed
<b>OSHA HCS 2012 CLASSIFICATION:</b> Acute Oral Toxicity Category 4			
<b>SIGNAL WORD:</b> WARNING			
<b>HAZARD STATEMENTS:</b> Harmful if swallowed			
			
Percent of product with unknown toxicity: 6.0%			
<b>PRECAUTIONARY STATEMENTS:</b> Prevention: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Response: <b>If Swallowed:</b> Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice. Rinse mouth. Storage: See Section 7 for storage information. Disposal: Dispose of contents/container in accordance with Federal, state and local regulations.			

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS		
Ingredient	% (wt)	CAS Reg. #
2,4-Dichlorophenoxyacetic acid, 2-ethylhexyl ester	66.2%	1928-43-4
2-ethyl hexanol	<0.6%	104-76-7
Solvent naphtha, petroleum, heavy aromatic	<0.5%	64742-94-5
1-hexanol	<0.3%	111-27-3
Naphthalene	<0.056%	91-20-3
*Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(j).		
See Section 8 for exposure limits.		

SECTION 4: FIRST AID MEASURES	
Inhalation:	Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.
Ingestion:	Seek medical attention or call a poison control center for treatment advice. Do not induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Eyes:	Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.
Skin:	Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if irritation persists.

SECTION 5: FIRE FIGHTING MEASURES	
<b>Suitable Extinguishing Media:</b>	Alcohol-resistant foam, carbon dioxide, dry powder or water fog
<b>Unsuitable Extinguishing Media:</b>	Water jet. Use of water jet will spread material.
<b>Special Fire Fighting Procedures:</b>	Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind.
<b>Hazardous Combustion Products:</b>	Hydrogen chloride and carbon oxides
<b>Unusual Fire and Explosion Hazards:</b>	Closed containers may explode from vapor expansion in high heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES	
<b>Personal Precautions:</b>	Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
<b>Environmental Precautions:</b>	Do not allow spilled product or washings to enter sewers or waterways.
<b>Methods for Containment:</b>	Contain spilled product by diking area with sand or earth.
<b>Methods for Clean-up:</b>	Cover spilled product with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop or sweep up material and place in a container for disposal. Do not place spilled material back in original container.
<b>Other Information:</b>	Spills of this product may require reporting under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as the product contains 2,4-Dichlorophenoxyacetic acid (2,4-D) with a reportable quantity (RQ) of 100 lbs. See Section 15 for additional information.

SECTION 7: HANDLING AND STORAGE	
<b>Handling:</b>	RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the pesticide product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

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**Storage:** Store in cool, dry areas away from children, feed and food products and sources of heat. Store in original container with lid tightly closed. Do not store in direct sunlight. See pesticide product label for additional storage information.

**Minimum Storage Temperature:** Not determined

**Other Precautions:** Consult Federal, state and local laws and regulations pertaining to storage.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Exposure Guidelines

Component:	OSHA PEL	ACGIH TLV	NIOSH REL
Naphthalene (CAS # 91-20-3)	10 ppm/50 mg/m <sup>3</sup> (TWA) 75 mg/m <sup>3</sup> /15 ppm (STEL)	10 ppm (TWA) 15 ppm (STEL)	
Petroleum distillates	500 ppm/2000 mg/m <sup>3</sup> (TWA)		
2,4-D Dichlorophenoxy acetic acid	10 mg/m <sup>3</sup> (TWA)	10 mg/m <sup>3</sup> (TWA)	

**NOTE TO END USERS:** PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING LISTED IN THIS SECTION IS FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD REFER TO THE PESTICIDE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING.

**Respiratory Protection:** Where airborne exposure to concentrations greater than the above listed exposure limits is likely, use a NIOSH approved respirator with cartridges/canisters approved for pesticides and organic vapors.

**Engineering Controls:** **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

**Protective Gloves:** Wear chemical resistant gloves.

**Eye Protection:** Wear chemical goggles or safety glasses and full-face shield. Contact lenses are not eye protective devices.

**Other Protective Clothing or Equipment:** Wear long sleeve shirt, long pants and shoes plus socks to prevent skin exposure.

**Work/Hygienic Practices:** Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid	<b>Specific Gravity (H<sub>2</sub>O=1):</b>	1.05
<b>Vapor Pressure (mm Hg):</b>	Not determined	<b>Density (lbs/gallon):</b>	8.75 – 8.8 lbs/gallon
<b>Vapor Density (Air=1):</b>	Not determined	<b>Melting Point/Freezing Point:</b>	Not determined
<b>Solubility in Water (wt %):</b>	Not determined	<b>Boiling Point/Range:</b>	Not determined
<b>Viscosity:</b>	Not determined	<b>pH:</b>	4.1 – 5.3
<b>Appearance and odor:</b>	Amber colored liquid with slight phenolic odor	<b>Flash Point:</b>	>200°F (93°C)

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** None known

**Chemical Stability:** Product is stable at ambient temperature and pressure, under normal storage and handling conditions.

**Possibility of Hazardous Reactions:** Will not occur

**Conditions to Avoid:** Avoid excessive heat.

**Incompatible Materials:** Strong bases, acids and oxidizing materials.

**Hazardous Decomposition Products:** Hydrogen chloride and carbon oxides under fire conditions.

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### SECTION 11: TOXICOLOGICAL INFORMATION

#### ACUTE TOXICITY

Eye Effects:	May cause mild but reversible eye irritation.
Skin Effects:	May cause mild but reversible skin irritation. Estimated LD50 = 2,653 mg/kg
Acute Inhalation Effects:	LC50 for the active ingredient (2,4-Dichlorophenoxyacetic acid, 2-ethylhexyl ester) is >5.4 mg/L; Additional components are not anticipated to lower the inhalation toxicity of the end product.
Acute Oral Effects:	Estimated LD50 = 1,295 mg/kg
Specific Target Organ Toxicity:	None known

#### CHRONIC TOXICITY

Chronic Effects:	None known
Carcinogenicity:	None known
Mutagenicity:	None known
Teratogenicity:	None known
Reproductive Toxicity:	None known

#### POTENTIAL HEALTH EFFECTS:

Eyes:	May cause mild eye irritation.
Skin:	May cause mild skin irritation.
Inhalation:	May cause mild irritation of the upper respiratory tract.
Ingestion:	Harmful if swallowed. May cause nausea, gastric upset and diarrhea.

### SECTION 12: ECOLOGICAL INFORMATION

**ENVIRONMENTAL SUMMARY:** Based upon the active ingredient, this product is slightly toxic to avian and aquatic organisms. Information presented in on the acid form of 2,4-D and not the ester form.

#### ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity:	Bioconcentration factor in fish is 0.1-0.47. Acute LC50=344 mg/L for <i>Pimephales promelas</i> (fathead minnow) Acute LC50 = 524 mg/L for <i>Lepomis macrochirus</i> (bluegill), Acute LC50 =245 mg/L for <i>Oncorhynchus mykiss</i> (rainbow trout) in 96 hours.
Aquatic Invertebrate Acute Toxicity:	Acute LC50 = 184 mg/L for <i>Daphnia magna</i> (water flea) Acute LC50 = 181 mg/L for <i>Penaeus duorarum</i> (pink shrimp) Acute LC50 = 469 mg/L for <i>Menidia beryllina</i> (tidewater silverside) Acute EC50=136 mg/L for shell deposition inhibition in <i>Crassostrea virginica</i> (eastern oyster)
Aquatic Plant Toxicity:	Growth inhibition EC50= 0.58 mg/L for <i>Lemna</i> sp. (duckweed) EC50 = 36.60 mg/L for <i>Skeletonema costatum</i> (marine diatom) EC50 = 153 mg/L for <i>Anabaena flosaquae</i> (blue-green alga) EC50 = 66.5 mg/L for <i>Selenastrum capricornutum</i> (green alga) EC50 = 5.28 mg/L for <i>Navicula</i> sp. (diatom)
Bird Acute and Prolonged Toxicity:	Dietary LC50 > 5620 ppm for <i>Colinus virginianus</i> (bobwhite) and for <i>Anas platyrhynchos</i> (mallard).
Honeybee Toxicity:	Not determined

#### ENVIRONMENTAL EFFECTS:

Soil Absorption/Mobility:	Potential for mobility in soil is high (50 < Koc < 150). Soil organic carbon/water partition coefficient (Koc) is 72-136.
Persistence and degradability:	Biochemical oxygen demand is 0.72 for 5, 10 and 20 days. Chemical oxygen demand is 0.72. Under aerobic soil conditions the half-life is 4 - 23 days. Under aerobic aquatic conditions, the half-life is 0.5 - 11 days.
Bioaccumulative Potential:	Bioconcentration potential is low (BCF < 100 or log Pow < 3).
Other adverse effects:	None known.

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### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste:** Dispose of in accordance with applicable Federal, state and local laws and regulations.

**Container:** Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations.

**See pesticide product label for full instructions on disposal.**

**RCRA Characteristics:** It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste. If product is disposed of as purchased, the following RCRA codes may apply: U240 - Acetic acid, (2,4-dichlorophenoxy)-, salts & esters and U165 - Naphthalene

### SECTION 14: TRANSPORT INFORMATION

**DOT:** This product is not regulated by the U.S. Department of Transportation as a hazardous material for ground shipment in quantities less than 26 gallons.

**(Ground)** For quantities greater than or equal to 26 gallons:

UN3082, Environmental Hazardous Substance, Liquid, N.O.S (Contains 2,4-D), 9, PG III, RQ

**IMDG:**  
**(Sea)** Not determined

**IATA:**  
**(Air)** Not determined

**TDG:**  
**(Canada)** Not determined

### SECTION 15: REGULATORY INFORMATION

**TSCA Inventory:** This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

**SARA Title III Information:**

**Section 302 - Extremely hazardous substances:** None listed

**Section 311/312 - Hazard Categories:** Immediate (Acute)

**Section 313 -** The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:

2,4-Dichlorophenoxyacetic acid, 2-ethylhexyl ester (CAS # 1928-43-4) 66.2%; Naphthalene (CAS # 91-20-3) <0.056%

**CERCLA -** This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):

2,4-D Acid has an RQ of 100 lbs (RQ reached with 26.32 gallons of product)

Naphthalene has an RQ of 100 lbs (not reached with any practical quantity of product)

**EPA Registration Information:** This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Harmful if swallowed.

Causes moderate eye irritation.

Harmful if absorbed through skin.

Avoid contact with eyes, skin, or clothing.

Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

**California Proposition 65: WARNING:** This product contains a chemical known to the state of California to cause cancer and/or reproductive harm.

**U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):**

Chemical Name	CAS #	State(s)
2,4-Dichlorophenoxyacetic acid, 2-ethylhexyl ester	1928-43-4	NJ
Solvent naphtha, petroleum, heavy aromatic	64742-94-5	PA
1-hexanol	111-27-3	NJ, PA
Naphthalene	91-20-3	NJ, PA
2-ethyl hexanol	104-76-7	MA, PA

**Canadian Domestic Substances List:** Not determined

**WHMIS Classification:** This product is not approved for use in Canada. WHMIS classification is not determined.

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### SECTION 16: OTHER

**Disclaimer:** The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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**Supersedes document dated:**

**Sections Revised:**