

# MATERIAL SAFETY DATA SHEET

## I. COMPANY/PRODUCT IDENTIFICATION

Winfield Solutions, LLC  
P.O. Box 64589  
St. Paul, MN 55164-0589

In Case of Emergency Call:  
800-424-9300 [CHEMTREC]  
Medical Emergency Call: 877-424-7452

PRODUCT NAME: 2,4-D LV4 EPA Reg. No. 1381-102  
Product Class: Herbicide  
Synonyms: 2, 4-D  
Active Ingredient(s) and/  
or Primary Component(s) : 2-ethylhexyl ester of 2,4-Dichlorophenoxyacetic  
acid

Chemical Family: Phenoxy herbicide

## 2. COMPOSITION/INFORMATION OF HAZARDOUS INGREDIENTS

CHEMICAL NAME (INGREDIENTS)	CAS NUMBER	HAZARD	% BY WEIGHT
2,4-Dichlorophenoxyacetic acid, dimethylamine salt	2008-39-1		66.2
Inert ingredients*			33.8

\*Trade secret information available as provided in 29  
CFR 1910.1200 (j)

For EXPOSURE GUIDELINES, See page 3, section 8 of this MSDS

## 3. HAZARDS IDENTIFICATION

### EFFECTS OF OVEREXPOSURE

#### ACUTE (SHORT TERM EXPOSURE):

EYE: May cause irritation and redness. SKIN CONTACT: Prolonged exposure may cause skin irritation. INGESTION Harmful if swallowed, may cause gastrointestinal irritation. INHALATION: Single exposure to vapors is not likely to be hazardous.

**CHRONIC (LONG TERM EXPOSURE):**

Excessive exposure may cause liver, kidney, gastrointestinal and muscular effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting and abdominal cramps and/or diarrhea. Various animal cancer tests have shown no reliable positive association between 2,4-D exposure and cancer. Epidemiology studies have been both positive and negative with the majority being negative. Birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother. High dietary levels of 2,4-D caused toxic effects (weight and viability reduction) in rats on a reproduction test. Has been shown to be negative in some vitro ("test tube") mutagenicity tests and positive in others. Results of mutagenicity tests in animals have been inconclusive .

**GENERAL PRECAUTIONS:**

Always practice good industrial hygiene; handle with care; avoid personal contact. Do not get into eyes or on skin; do not breathe mist or vapor of product. Do not swallow. Wash hands with soap and water and rinse after handling product. Shower after each shift. Wash all work clothing and completely clean all PPE (personal protective equipment) after each shift.

**MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:**

None known

**PRIMARY ROUTE OF ENTRY:**             **INHALATION**     **INGESTION**         **ABSORPTION**

**4. FIRST AID MEASURES**

Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses 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 mouth-to-mouth if possible. Call a Poison Control Center or doctor for further treatment advice.

**IF SWALLOWED:** Call a Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

**NOTE TO PHYSICIAN: (ANTIDOTE)**      Contains petroleum distillate – vomiting may cause aspiration hazard.

**5. FIRE FIGHTING MEASURES**

<b>FLASH POINT</b>	<b>FLAMMABLE LIMITS</b>	<b>LOWER EXPLOSIVE LIMIT (LEL)</b>	<b>UPPER EXPLOSIVE LIMIT (UEL)</b>
160° F TOC	N/E	N/E	N/E

**EXTINGUISHING MEDIA:**

**FOAM**         **CO<sub>2</sub>**     **DRY CHEMICAL**         **WATER SPRAY**         **OTHER (SPECIFY):**

**SPECIAL FIRE FIGHTING PROCEDURES:**

If water is used, use a soft fog to avoid spreading contamination. Use self-contained breathing apparatus and full protective gear in confined areas of buildings. Contain water to prevent entry into water supplies.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Use water to keep fire-exposed containers cool. **DO NOT USE WATER TO EXTINGUISH FIRE** unless

6

unavoidable to prevent spreading of material .

## 6. ACCIDENTAL RELEASE MEASURES

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Absorb with inert material such as sand, clay, kitty litter, or sawdust. Large spills should be contained.

### REPORTABLE QUANTITY (RQ) UNDER CERCLA:

For 2,4-D – 151.1 lbs. (17.4 gallons) or more of this material contains a 100 lb. RQ of 2,4-D ester.

## 7. HANDLING AND STORAGE

### STORAGE TEMPERATURES:

INDOOR       OUTDOOR       REFRIGERATED

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in area designated specifically for pesticides. Do not store near any material intended for use or consumption by humans or animals. Store in a cool place. Do not store in direct sunlight. Protect from freezing temperatures. Do not contaminate water, food, or feed by storage, disposal, or by cleaning of equipment. Do not reuse empty container. Or dumping is prohibited.

**OTHER PRECAUTIONS:** Wash thoroughly after use and before eating or smoking.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### CHEMICAL NAME

### EXPOSURE LIMITS

2,4-Dichlorophenoxyacetic  
acid, Iso-octyl esters  
Inert ingredients\*

OSHA PEL – N/A      ACGIH TLV – 10 mg/m<sup>3</sup>

*\*Trade secret information available as provided in 29 CFR 1910.1200 (i)*

VALUES ARE 8-HR. TIME-WEIGHTED-AVERAGES UNLESS OTHERWISE SPECIFIED

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (cont.)

**ENGINEERING CONTROLS:** Local exhaust or general ventilation to maintain exposure below PEL.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**EYE/FACE PROTECTION:** Safety glasses or goggles.

**HAND/SKIN PROTECTION:** Long-sleeved shirt and long pants. Chemical-resistant gloves, such as neoprene or nitrile rubber or barrier laminate or viton. Shoes plus socks  
N/A

**RESPIRATORY PROTECTION:**

**WORK PRACTICES:** Minimize exposure. Wear appropriate PPE to prevent the probability of

exposure and personal contact. Wash with soap and rinse thoroughly after handling material and before eating, drinking, smoking or using restroom facilities. Shower after each shift. Deluge safety shower and eye wash should be located in work area.

**NOTE TO END-USERS:** *The employee protection recommendations on this MSDS may differ from those on the product label. For normal use of this product, always refer to the personal protective equipment requirements on the product label.*

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Amber colored liquid	<b>pH (AS IS):</b>	N/E
<b>BOILING POINT (°F):</b>	181° C	<b>SOLUBILITY (WATER):</b>	Soluble
<b>BULK DENSITY:</b>	N/A	<b>SPECIFIC GRAVITY:</b>	1.0432
<b>COLOR:</b>	Amber	<b>VAPOR DENSITY (Air = 1):</b>	N/E
<b>EVAP. RATE (BuAc=01):</b>	N/E	<b>VAPOR PRESSURE (mmHg):</b>	N/E
<b>FREEZING POINT (°F):</b>	N/E	<b>VISCOSITY:</b>	N/E
<b>ODOR:</b>	Slight phenolic odor	<b>% VOLATILE BY VOLUME:</b>	N/E

## 10. STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	N/E
<b>INCOMPATIBILITY (MATERIALS TO AVOID):</b>	Strong Acids, bases, oxidizing materials.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Hydrogen chloride under fire conditions.
<b>STABILITY:</b>	<input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE
<b>HAZARDOUS POLYMERIZATION:</b>	<input type="checkbox"/> WILL OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR

## 11. TOXICOLOGICAL INFORMATION

<b>ORAL LD<sub>50</sub></b> Rat = 1161 mg/kg	<b>DERMAL LD<sub>50</sub></b> Rabbit = >2000 mg/kg	<b>INHALATION LC<sub>50</sub></b> N/E
<b>EFFECTS TO EYES:</b> Slightly irritating.		
<b>EFFECTS TO SKIN:</b> Minimally irritating.		

## 11. TOXICOLOGICAL INFORMATION (cont.)

### CARCINOGENICITY REFERENCE SOURCES:

<b>I.A.R.C.</b>	X Yes 2B	<b>N.T.P.</b>	Yes	<b>O.S.H.A.</b>	<input type="checkbox"/> Yes
	No		X No		<input checked="" type="checkbox"/> No

## 12. ECOLOGICAL INFORMATION

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect non-target plants. For terrestrial use, do not apply directly to water, or to area where surface water is present or to intertidal areas

6

below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

### 13. DISPOSAL CONSIDERATIONS

**RCRA – FEDERAL HAZARDOUS WASTE INFORMATION:** N/A\*

\* See 40 CFR Part 261 and contact your local regulatory agency for additional information and requirements.

**PESTICIDE DISPOSAL:**

Dispose of waste at an approved disposal facility.

**CONTAINER DISPOSAL:**

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### 14. TRANSPORT INFORMATION

**REGULATED BY:**       X Domestic Road/Rail (DOT)  
                                Export Water (IMO)  
                                Air (ICAO/IATA)

**DOMESTIC ROAD/RAIL (DOT)**

**For Package Sizes:**                   30 and 55 gal. drums – RQ, Combustible liquid, N.O.S., (Contains Fuel Oil, 2, 4 Ester), NA 1993, PG III

Bulk over 119 gallons – RQ, Combustible liquid, N.O.S., (Contains Fuel Oil, 2, 4 Ester), NA 1993, PG III

**Proper Shipping Name:**           Combustible liquid, N.O.S.

**ERG Number:**                       128

**Placard (>119 gals.):**           Combustible    Numeric: 1993

**Other Information:**               N/A

**Marine Pollutant?**        Yes    No               **Chemical (s):** NA

**EXPORT WATER (IMO)**

*Contact Winfield Solutions LLC Environmental Health & Safety for additional information.*

**AIR (ICAO/IATA)**

*Contact Agriliaance LLC Environmental Health & Safety for additional information.*

### 15. REGULATORY INFORMATION

**SARA HAZARD CATEGORY** This product has been reviewed according to the EPA Hazard Categories promulgated under Section 311 and 312 of the Superfund Amendments and Reauthorization Act Of 1986 (Sara Title III) and is considered, under applicable definitions, to meet the following categories:

**CERCLA/SARA:** Immediate (acute)  
**TPQ:** N/A  
**RQ:** N/A

**SARA 313 INFORMATION** This product contains the following substances subject to the reprint requirements of SARA Title III, Section 313 and 40 CFR Part 372:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>CONCENTRATION</u>
2, 4-D Dichlorophenoxyacetic acid	2008-39-1	44.0%

## 16. OTHER INFORMATION

<b>HMIS RATINGS</b>		<b>NFPA RATING</b>	
HEALTH	2	HEALTH	2
FLAMMABILITY	2	FLAMMABILITY	2
REACTIVITY	0	REACTIVITY	0
PERSONAL PROTECTION	B	SPECIFIC HAZARD	N/A

### ABBREVIATION KEY

N/A = Not Applicable	C = Ceiling Limit
STEL = Short Term Exposure Limit	N/D = Not Determined
rf = Respirable Fraction	SKIN = Skin Notation
N/E = Not Established	td = Total Dust

Revision: 2

Date: 09/18/07

Supersedes:

**THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IT IS ACCURATE TO THE BEST KNOWLEDGE OF WINFIELD SOLUTIONS LLC. THE DATA ON THIS SHEET RELATE ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. WINFIELD SOLUTIONS LLC ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THESE DATA.**