



NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least				Regulated in packages of 30 gallons or greater; see Section 14 for additional information.
1	Slight	3	Health		
2	Moderate	1	Flammability		
3	High	0	Reactivity		
4	Severe				

SECTION 1: IDENTIFICATION	
Product Name: Rugged® EPA Registration #: 1381-247 Product ID/Unity #: 1406627, 1437860, 1567792 Common Name: Phenoxy herbicide Chemical Description: 2,4-Dichlorophenoxyacetic acid Recommended Uses: Agricultural herbicide. See product label for complete list of uses and use sites. Restrictions for Use: See product label for information regarding restrictions on the use of this product.	MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs) Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)
Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	
FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL: CHEMTREC 1-800-424-9300 (24 hours)	

SECTION 2: HAZARDS IDENTIFICATION	
EMERGENCY OVERVIEW: Clear amber liquid with hydrocarbon-like odor. Causes severe eye irritation with the potential for irreversible damage. Harmful if swallowed or inhaled. May cause respiratory irritation.	
POTENTIAL HEALTH EFFECTS: Eyes: May cause severe irritation with corneal injury and may result in permanent impairment of vision. Skin: Repeated contact, as with clothing wetted with material, may cause mild skin irritation. Inhalation: Harmful if inhaled. May cause irritation of the respiratory system, difficulty breathing, coughing and/or wheezing. Ingestion: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Preexisting Conditions: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease. Chronic Health Effects: 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. In animals, effects have been reported on the following organs: adrenal gland, bone marrow, eye, kidney, liver, spleen, testes, and thyroid.	
Carcinogenicity	NTP: Not listed IARC: 2,4-D Acid (Group 2B) OSHA: Not listed
OSHA HCS 2012 CLASSIFICATION: Eye Corrosion Category 1; Acute Oral Toxicity Category 4; Acute Inhalation Toxicity Category 4; Carcinogenicity Category 2; Specific Target Organ Systemic Toxicity (Single Exposure) Category 3	
SIGNAL WORD: DANGER	
HAZARD STATEMENTS: Causes serious eye damage. Harmful if swallowed. Harmful if inhaled. Suspected of causing cancer. May cause respiratory irritation.	
Percent of product with unknown toxicity: 0%	

Continued on next page

PRECAUTIONARY STATEMENTS:

Prevention: Wear protective gloves, protective clothing, eye protection and face protection. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing mist, vapors, or spray. Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Response: **If in eyes:** Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice.
If Swallowed: Call a poison control center (1-877-424-7452) or doctor for treatment advice if you feel unwell. Rinse mouth.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison control center (1-877-424-7452) or doctor for treatment advice if you feel unwell.
If exposed or concerned: Get medical attention.

Storage: Store locked up in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS		
Ingredient	% (wt)	CAS Reg. #
2,4-Dichlorophenoxyacetic acid	38.4%	94-75-7
Trade Secret Carboxamide	30-60%	Trade Secret
Trade Secret Solvent	10-30%	Trade Secret
Dodecylbenzenesulfonic acid	1-5%	27176-87-0
*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:	Call a poison control center or doctor for treatment advice if you feel unwell. Rinse mouth. 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 immediately.
Skin:	Remove contaminated clothing and wash separately before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if irritation occurs.

SECTION 5: FIRE FIGHTING MEASURES	
Suitable Extinguishing Media:	Foam, carbon dioxide, dry chemical, or water fog.
Special Fire Fighting Procedures:	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.
Hazardous Combustion Products:	Hydrogen chloride and nitrogen oxides may also form.
Unusual Fire and Explosion Hazards:	Closed containers may explode from vapor expansion in high heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Environmental Precautions: This product may be toxic to fish and aquatic invertebrates. Keep spilled product from entering sewers or waterways.

Methods for Containment: Contain spilled product by diking area with sand or earth.

Methods for Clean-up: Cover contained spill 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.

Other Information: Spills of this product may require reporting under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). See Section 15 for additional information.

SECTION 7: HANDLING AND STORAGE

Handling: 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. Avoid breathing vapors, mist or spray. Avoid contact with eyes, skin and clothing. Wear personal protective equipment. Remove and wash contaminated clothing separately before reuse. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Immediately clean up spills that occur during handling. Keep containers closed when not in use.

Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a secured area away from children, feed and food products and sources of heat. Protect from freezing. Store at temperatures above 32°F. If allowed to freeze, rewarm to 40°F; remix thoroughly before using. **See pesticide product label for additional storage information.**

Minimum Storage Temperature: 32°F

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines	OSHA PEL	ACGIH TLV	NIOSH
Component: 2,4-D Dichlorophenoxy acetic acid	TWA: 10 mg/m ³	TWA: 10 mg/m ³	IDLH: 100 mg/m ³ REL (TWA): 10 mg/m ³

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 or irritation is experienced, use a NIOSH approved respirator with cartridges/canisters approved for pesticides.

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 to prevent skin exposure.

Eye Protection: Wear chemical goggles or safety glasses and full-face shield. Contact lenses are not eye protective devices. An emergency eyewash or water supply should be readily accessible to the work area.

Other Protective Clothing or Equipment: Wear long sleeve shirt, long pants and chemical resistant 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			
Physical State:	Liquid	Specific Gravity (H ₂ O=1):	1.09 – 1.10 (typical)
Vapor Pressure (mm Hg):	Not determined	Density (lbs/gallon):	9.10 – 9.18 (typical)
Vapor Density (Air=1):	Not determined	Melting Point/Freezing Point:	Not determined
Solubility in Water (wt %):	Emulsifies	Boiling Point/Range:	Not determined
Viscosity:	125 cps	pH:	2.76 – 2.90
Appearance and odor:	Clear amber with a hydrocarbon-like odor.	Flash Point:	>199°F (> 93°C) by closed cup

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 high temperatures, heat or flame.	
Incompatible Materials: Strong oxidizing agents, acids and bases.	
Hazardous Decomposition Products: Hydrogen chloride and nitrogen oxides under fire conditions.	

SECTION 11: TOXICOLOGICAL INFORMATION	
ACUTE TOXICITY	
Eye Effects:	May cause severe irritation with corneal injury and may result in permanent impairment of vision.
Skin Effects:	LD ₅₀ > 5,050 mg/kg; Not a skin sensitizer
Acute Inhalation Effects:	LD ₅₀ > 2.2 mg/L; May cause respiratory irritation.
Acute Oral Effects:	LD ₅₀ = 1,030 mg/kg
Specific Target Organ Toxicity:	In animals, effects of exposure to 2,4-D have been reported on the following organs: adrenal gland, bone marrow, eye, kidney, liver, spleen, testes, and thyroid.
CHRONIC TOXICITY	
Chronic Effects:	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.
Carcinogenicity:	2,4-D is a suspected human carcinogen. Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer. Epidemiology studies on herbicide use have been both positive and negative with the majority being negative.
Mutagenicity:	No components are anticipated to have mutagenic effects.
Teratogenicity:	No components are anticipated to have teratogenic effects.
Reproductive Toxicity:	No components are anticipated to have effects on the reproductive system.
POTENTIAL HEALTH EFFECTS:	
Eyes: May cause severe irritation with corneal injury and may result in permanent impairment of vision.	
Skin: Repeated contact, as with clothing wetted with material, may cause mild skin irritation.	
Inhalation: Harmful if inhaled. May cause irritation of the respiratory system, difficulty breathing, coughing and/or wheezing.	
Ingestion: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.	

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: This product may be toxic to fish and aquatic invertebrates. Information presented below is based upon the technical ingredient 2,4-Dichlorophenoxyacetic acid.

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. Acute LC50 = 184 mg/L for <i>Daphnia magna</i> (water flea) Acute LC50 = 181 mg/L for <i>Penaeus duorarum</i> (pink shrimp)
Aquatic Invertebrate Acute Toxicity:	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) 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)
Aquatic Plant Toxicity:	Dietary LC50 > 5620 ppm for <i>Colinus virginianus</i> (bobwhite) and for <i>Anas platyrhynchos</i> (mallard).
Bird Acute and Prolonged Toxicity:	Not determined
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.

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.

SECTION 14: TRANSPORT INFORMATION

DOT: (Ground)	This product is not regulated by the U.S. Department of Transportation as a hazardous material for ground shipment in quantities less than 30 gallons. For quantities greater than or equal to 30 gallons: UN3082, Environmental Hazardous Substance, Liquid, N.O.S (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); Delayed (Chronic)

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 (CAS# 94-75-7)

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-Dichlorophenoxyacetic acid (CAS# 94-75-7) has an RQ of 100 lbs (reached with 27.5 gallons of product).

Dodecylbenzenesulfonic acid (CAS# 27176-87-0) has an RQ of 1000 lbs (not reached with any practical quantity of this substance).

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:

DANGER

Corrosive.

Causes irreversible eye damage.

Harmful if absorbed through skin or swallowed.

Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses).

Avoid contact with skin.

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

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

Chemical Name	CAS #	State(s)
2,4-Dichlorophenoxyacetic acid	94-75-7	IL, MA, MN, NJ, PA, RI
Dodecylbenzenesulfonic acid	27176-87-0	MA, NJ, PA

Canadian Domestic Substances List: Not determined

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

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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