

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,  
Call CHEMTREC Day or Night: 1-800-424-9300  
For Medical Emergencies Only, Call 1-877-424-7452

**Product Name:** Strike Three Ultra® 2 Herbicide  
**Synonyms:** Herbicide Mixture of 2,4-D, Fluroxypyr and Dichlorprop-p (2,4-DP-p)  
**EPA Reg. No.:** 228-455-1381

**Company Name:** Winfield Solutions, LLC  
P. O. Box 64589  
St. Paul, MN 55164-0589

**Date of Issue:** January 21, 2010

**Supersedes:**

**Sections Revised:**

**2. HAZARDS IDENTIFICATION****Emergency Overview:**

**Appearance and Odor:** Amber colored liquid with mild amine odor.

**Warning Statements:** Keep out of reach of children. DANGER. Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin or clothing.

**Potential Health Effects:**

**Likely Routes of Exposure:** Inhalation, skin and eye contact.

**Eye Contact:** Causes irreversible eye damage. Vapors and mist may cause irritation.

**Skin Contact:** Moderately irritating. Overexposure by skin absorption may cause symptoms similar to those for ingestion.

**Ingestion:** Harmful if swallowed. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation, weakness and central nervous system depression.

**Inhalation:** Low inhalation toxicity.

**Medical Conditions Aggravated by Exposure:** Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

**Potential Environmental Effects:**

This product is toxic to aquatic invertebrates and fish. Drift or runoff may adversely affect aquatic invertebrates and non-target plants.

See Section 12: ECOLOGICAL INFORMATION for more information.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

COMPONENT	CAS NO.	% BY WEIGHT
Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid	2008-39-1	39.30
1-Methylheptyl Ester of Fluroxypyr	81406-37-3	5.88
Dimethylamine Salt of (+)-R-2-(2,4-Dichlorophenoxy) propionic Acid	104786-87-0	9.72
Other Ingredients Including:		45.10
Aromatic Solvent	64742-94-5	
(Contains Naphthalene)	91-20-3	

**4. FIRST AID MEASURES**

**If in Eyes:** Hold eye open and rinse slowly and gently with water for 15 to 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 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If on Skin:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 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 further treatment advice.

**Note to Physician:** Probable mucosal damage may contraindicate use of gastric lavage.

**5. FIRE FIGHTING MEASURES**

**Flash Point:** >230°F (>110°C) Setaflash

**Autoignition Temperature:** Not determined      **Flammability Limits:** Not determined

**Extinguishing Media:** Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Unusual Fire and Explosion Hazards:** If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

**Hazardous Decomposition Materials (Under Fire Conditions):** May produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

**National Fire Protection Association (NFPA) Hazard Rating:**

**Rating for this product:** Health: 3      Flammability: 1      Reactivity: 0

Hazards Scale: 0 = Minimal    1 = Slight    2 = Moderate    3 = Serious    4 = Severe

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

**Methods for Containment:** Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

**Methods for Clean-Up and Disposal:** Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

**Other Information:** Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

**7. HANDLING AND STORAGE**

**Handling:**

Do not get in eyes, on skin or on clothing. Users should wash hands, face and arms with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if

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pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

If the container is over one gallon and less than five gallons, then persons engaged in open pouring of the product must also wear coveralls or a chemical-resistant apron. If the container is five gallons or more in capacity, do not open pour product from the container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of the container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

**Storage:**

Always use original container to store pesticides in a secured warehouse or storage building. Protect from freezing. Store at temperatures above 25°F. If allowed to freeze, remix before using. This does not alter the product. Container should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides. Do not contaminate water, food or feed by storage or disposal.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Engineering Controls:**

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

**Personal Protective Equipment:**

**Eye/Face Protection:** To avoid contact with eyes, wear face shield, goggles or safety glasses with front, brow and temple protection. An emergency eyewash or water supply should be readily accessible to the work area.

**Skin Protection:** To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. When open pouring the product, also wear coveralls or a chemical-resistant apron. An emergency shower or water supply should be readily accessible to the work area.

**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.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

**Exposure Guidelines:**

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
DMA Salt of 2,4-D	10*	NE	10*	NE	mg/m <sup>3</sup>
Fluroxypyr	NE	NE	NE	NE	
Dimethylamine Salt Dichlorprop-p	NE	NE	NE	NE	
Naphthalene	10	NE	10 (Skin)	15 (Skin)	ppm

\*Based on adopted limit for 2,4-D

NE = Not Established

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance and Odor:** Amber colored liquid with mild amine odor.

**Boiling Point:** Not determined  
**Density:** 9.754 pounds/gallon  
**Evaporation Rate:** Not determined

**Solubility in Water:** Dispersible  
**Specific Gravity:** 1.171 @ 25°C  
**Vapor Density:** Not determined

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**Freezing Point:** Not determined  
**pH:** 9.0 (1% solution)  
**Note:** Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

**Vapor Pressure:** Not determined  
**Viscosity:** 66.9 cps @ 25°C

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** This material is stable under normal handling and storage conditions.  
**Conditions to Avoid:** Excessive heat. Do not store near heat or flame.  
**Incompatible Materials:** Strong oxidizing agents: bases and acids.  
**Hazardous Decomposition Products:** Under fire conditions, may produce gases such as hydrogen chloride and oxides of carbon and nitrogen.  
**Hazardous Reactions:** Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Toxicological Data:

Data from laboratory studies conducted on a similar, but not identical, formulation:

- Oral:** Rat LD<sub>50</sub>: 1,750 mg/kg (female); FIFRA Category III
- Dermal:** Rat LD<sub>50</sub>: >2,000 and <5,000 mg/kg; FIFRA Category III
- Inhalation:** Rat 4-hr LC<sub>50</sub>: >2.07 mg/L; FIFRA Category IV
- Eye Irritation:** Rabbit: Severely irritating; FIFRA Category I
- Skin Irritation:** Rabbit: Moderately irritating; FIFRA Category III
- Skin Sensitization:** Not a contact sensitizer in guinea pigs following repeated skin exposure.

**Subchronic (Target Organ) Effects:** Repeated overexposure may cause effects to liver, kidneys, blood chemistry, testes and gross motor function. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high doses for prolonged periods.

**Carcinogenicity / Chronic Health Effects:** The International Agency for Research on Cancer (IARC) lists exposure to chlorophenoxy herbicides as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans. However, newer rat and mouse lifetime feeding studies did not show carcinogenic potential for 2,4-D or dichlorprop/dichlorprop-p. The U.S. EPA has given 2,4-D a Class D classification (not classifiable as to human carcinogenicity). Fluroxypyr did not cause cancer in laboratory animals. The hydrocarbon component may contain naphthalene, which is listed by IARC as a class 2B and the U.S. National Toxicology Program as reasonably anticipated to be a human carcinogen.

**Reproductive Toxicity:** No impairment of reproductive function attributable to 2,4-D or dichlorprop has been noted in laboratory animal studies. In animal studies, fluroxypyr has been shown not to interfere with reproduction.

**Developmental Toxicity:** Studies in laboratory animals with 2,4-D have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals. Fluroxypyr did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects in the mother. Rat and rabbit studies on dichlorprop-p resulted in fetal mortality, decreased fetal body weight, decreased body weight gain and developmental delays at doses that were also toxic to mother animals. There was no evidence of birth defects in either species.

**Genotoxicity:** There have been some positive and some negative studies, but the weight of evidence is that 2,4-D is not mutagenic. Animal tests with fluroxypyr did not demonstrate mutagenic effects. Genotoxicity studies on dichlorprop-p have been inconclusive with some positive and some negative results.

### Assessment Carcinogenicity:

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Chlorophenoxy Herbicides	No	2B	No	No

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Naphthalene	No	2B	Yes*	No
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\*Reasonably anticipated to be a human carcinogen

See Section 2: HAZARDS IDENTIFICATION for more information.

**12. ECOLOGICAL INFORMATION****Ecotoxicity:**

Data on 2,4-D Dimethylamine Salt:

96-hour LC <sub>50</sub> Bluegill:	524 mg/l	Bobwhite Quail Oral LD <sub>50</sub> :	500 mg/kg
96-hour LC <sub>50</sub> Rainbow Trout:	250 mg/l	Mallard Duck 8-day Dietary LC <sub>50</sub> :	>5,620 ppm
48-hour EC <sub>50</sub> Daphnia:	184 mg/l		

\*Data on Fluroxypyr 1-Methylheptyl Ester:

Acute LC <sub>50</sub> Blue Gill:	above water solubility
Acute LC <sub>50</sub> Rainbow Trout:	above water solubility
Acute Immobilization EC 50 Daphnia Magna:	>499 µg/L
Bobwhite Quail Acute Oral LD <sub>50</sub> :	>2,000 mg/kg
Mallard Duck Acute Oral LC <sub>50</sub> :	>2,000 mg/kg

\*Fluroxypyr 1-Methylheptyl Ester is highly insoluble in water.

Data on Dichlorprop-p:

96-hour LC <sub>50</sub> Bluegill:	100 mg/l	96-hour EC <sub>50</sub> Algae:	676 mg/l
48-hour EC <sub>50</sub> Daphnia Magna:	>100 mg/l	Bobwhite Quail Oral LD <sub>50</sub> :	>2,000 mg/kg

**Environmental Fate:**

In laboratory and field studies, 2,4-D DMA salt rapidly dissociated to parent acid in the environment. The typical half-life of the resultant 2,4-D acid ranged from a few days to a few weeks. Fluroxypyr has a hydrolysis half-life of 12.8 to 16.5 hours. Under aerobic and anaerobic soil conditions the half-life for Fluroxypyr is 7 days. Dichlorprop-p dimethylamine salt rapidly dissociates to parent dichlorprop-p in the environment. In soil, dichlorprop-p has a typical half-life of approximately 7 days.

**13. DISPOSAL CONSIDERATIONS****Waste Disposal Method:**

Pesticide wastes are acutely hazardous. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, 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 Handling and Disposal:**

**Plastic Bottles and Non-Returnable Plastic Drums:** Triple rinse (or equivalent), adding the rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Returnable/Refillable Containers:** Close all openings and replace all caps. Contact your nearest Winfield Solutions dealer or service center to arrange for return of the empty refillable container.

**14. TRANSPORTATION INFORMATION**

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

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Not regulated as a DOT hazardous material in packages containing 254 lbs. or less. Packages containing more than 254 pounds contain a 100 lb. RQ of 2,4-D salt.

**15. REGULATORY INFORMATION****U.S. Federal Regulations:**

**TSCA Inventory:** This product is exempted from TSCA because it is solely for FIFRA regulated use.

**SARA Hazard Notification/Reporting:****Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Immediate, Delayed

**Section 313 Toxic Chemical(s):**

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7), 32.64% equivalent by weight in product  
Naphthalene (CAS No. 91-20-3), 0.61% by weight in product

**Reportable Quantity (RQ) under U.S. CERCLA:**

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7) 100 pounds  
Naphthalene (CAS No. 91-20-3) 100 pounds

**RCRA Waste Code:**

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7) U240  
Naphthalene (CAS No. 91-20-3) U165

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** WARNING. This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

**16. OTHER INFORMATION**

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

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