WINFIELD® SOLUTIONS

Material Safety Data Sheet

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
CHEMTREC 1-800-424-9300

Section 1—Chemical Product and Company Identification

Product Name:	Strike Three®	EPA Reg. No.: 14774-2
Common Name:	Herbicide	
Chemical Description:	Mixture of 2,4-D, Mecoprop-p and Dicamba	

Manufacturer's Name: **WINFIELD SOLUTIONS, LLC** P. O. Box 64589 St. Paul, MN 55164-0589	Medical Emergency Telephone Number: **1-877-424-7452** **MSDS Revision Date:** 1/17/2012 Supersedes document dated 04/09/2008

Section 2—Hazards Identification

Emergency Overview: Clear, dark amber colored liquid with slight phenolic odor. Product may cause oxygen deficiency in confined spaces; follow all OSHA regulations pertaining to confined space entry. See health effects below.

CAUTION: Keep out of reach of children.

Route(s) of Entry: Eyes, Inhalation, Skin, and Ingestion.

Health Hazards (Acute and Chronic):

Inhalation: Harmful if inhaled. Overexposure may cause upper respiratory tract irritation and symptoms similar to ingestion.
Eye: Can cause irreversible eye damage. Vapors and mist can cause irritation.
Skin: Slightly toxic and slightly irritating based on toxicity studies. Overexposure by skin absorption may cause symptoms similar to those from ingestion.
Ingestion: Harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

Medical Conditions Generally 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.

Potential Environmental Effects:
This product is toxic to fish and aquatic invertebrates. Drift or run-off may adversely affect aquatic invertebrates and non-target plants.

Section 3—Composition Information on Ingredients

Ingredient	% (wt)	CAS reg. #
Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid	30.56%	2008-39-1
Dimethylamine Salt of (+)-R-2-(2-Methyl-4-Chlorophenoxy) propionic Acid	8.17%	66423-09-4
Dimethylamine Salt of Dicamba (3,6-Dichloro-o-anisic Acid)	2.77%	2300-66-5
Inert Ingredients	58.50%	

*Ingredients not specifically listed are non-hazardous and considered to be confidential business information.

NFPA HAZARD RATING:			
0	Least		
1	Slight	3	Health
2	Moderate	1	Flammability
3	High	0	Reactivity
4	Severe		

Section 4—First Aid Measures

Inhalation:	Remove person to fresh air and support breathing as needed. Call poison control center or doctor for further treatment advice.
Ingestion:	Seek medical attention or call a poison control center immediately. Have person sip water if able to swallow. Do not induce vomiting unless told so by the poison control center or doctor.
Eyes:	Flush with clean water for at least 15-20 minutes. Lift eyelids to facilitate irrigation. Call poison control center or doctor for treatment advice.
Skin:	Remove contaminated clothing and wash before re-using. Flush skin immediately with water for 15-20 minutes. Call poison control center or doctor for treatment advice.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5—Fire and Explosion Hazard Data

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: Wear NIOSH/MSHA self-contained breathing apparatus and full bunker gear. Smoke and fumes from fire may contain hazardous components. Dike area off to prevent runoff and contamination of water sources.
Unusual Fire and Explosion Hazards: Closed containers may explode from vapor expansion in high heat. Contain run-off by diking 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.

Section 6—Accidental Release Measures

Small Spills: Clean-up personnel should protect against mist inhalation and skin contact. Avoid generating mists. Spills should be cleaned up immediately to prevent spreading.
Large Spills: Clean-up personnel should protect against mist inhalation and skin contact. Avoid generating mist.
Containment: Do not release into sewers or waterways. Dike spills to prevent contamination to water supplies. Contain spills and absorb liquids by covering with clay or other absorbent material. Vacuum, scoop, or sweep up waste and place in a container for disposal.
Environmental Precautions: This product is toxic to fish and aquatic invertebrates and may adversely affect non-target plants. Do not contaminate water when disposing of equipment wash waters or rinsate. The use of this product in areas where soils are permeable, particularity where the water table is shallow may result in ground water containment. Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D and MCPP-p have been associated with mixing/loading and disposal sites. Caution should be exercised when handling these herbicides at such sites to prevent contamination of groundwater supplies. Use of the closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.
Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

Section 7—Precautions for Safe Handling and Use

Handling: Avoid inhalation of spray mists. Do not get in eyes, or on skin or clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or the toilet. Remove clothing immediately if clothing becomes saturated with pesticide. Then wash clothes thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing them. As soon as possible wash yourself and clothes then change into clean clothes.
Storage: Always use original container to store pesticides in a secured warehouse or storage building. Store at temps above 32°F. If allowed to freeze, remix before using. This does not alter the product. Containers 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 fertilizers seeds or other pesticides. Do not contaminate water, food or feed by storage or disposal.
Other Precautions: Consult Local, State, and Federal regulations pertaining to storage and disposal.

Section 8—Control Measures/Personal Protection

Exposure Guidelines: Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid (CAS #2008-39-1): OSHA PEL 10ppm

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.

Ventilation: **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Use local exhaust ventilation at the point of generation.

NOTE TO END USERS: Refer to product label for complete list of required Personal Protective Equipment (PPE).

Protective Gloves: Wear chemically protective gloves.
Eye Protection: Wear protective eyeglasses or chemical safety goggles. Contact lenses are not eye protective devices.
Other Protective Clothing or Equipment: Wear chemically protective boots, aprons, coveralls and gauntlets to prevent prolonged or repeated skin contact.
Work/Hygienic Practices: Never eat, drink, nor smoke in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9—Physical/Chemical Characteristics

Physical State:	Liquid	**Specific Gravity (H_2O=1):**	1.13 @ 20 C
Vapor Pressure (mm Hg):	Not Determined	**Freezing Point:**	32°F(0°C)
Vapor Density (Air=1):	Not Determined	**Boiling Point:**	Not Determined
Solubility in Water (wt %):	Soluble	**pH:**	7.0 – 8.0
Appearance and odor:	Clear, dark amber colored liquid with slight phenolic odor	**Flash Point:**	Not Applicable

Section 10—Reactivity Data

Stability: Product stable at room temperature in closed containers under normal storage and handling conditions.
Chemical Incompatibilities: Strong oxidizing agents: Strong bases and acids.
Conditions to Avoid: Avoid excessive heat. Do not store near heat or flame.
Hazardous Decomposition Products: Under fire conditions may produce gases such as hydrogen chloride and oxides of nitrogen and carbon.
Hazardous Polymerization: Will not occur.

Section 11—Toxicological Information

Eye Effects:	Severely irritating/corrosive (rabbit)
Skin Effects:	LD50 > 2000 mg/kg (rabbit); slightly irritating (rabbit); not a contact sensitizer
Acute Inhalation Effects:	LC50: >3.57 Mg/L (4-hr)(rat)
Acute Oral Effects:	LD50 : 930 g/kg (female) and > 500 mg/kg (male)(rat)
Subchronic (Target Organ) Effects:	Repeated overexposure to phenoxy herbicides may cause effects to liver, kidneys, blood chemistry and gross motor functions. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high does for prolonged periods. Repeated overexposure to dicamba may cause liver changes or a decrease in body weight.
Reproductive Toxicity:	No impairment of reproductive function attributable to 2,4-D have been noted in laboratory animal studies. Animal tests with dicamba have not demonstrated reproductive effects.
Developmental Toxicity:	Studies in laboratory animals with 2,4-D and MCPP have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals. Animal tests with Dicamba have not demonstrated developmental effects.
Genotoxicity:	There have been some positive and some negative studies, but the weight of evidence is that neither 2,4-D nor MCPP is mutagenic. Animal tests with dicamba have not demonstrated mutagenic effects.

Carcinogenicity:	NTP: Not available	IARC: 2B (chlorophenoxy herbicides)	OSHA: Not Available

Section 12—Ecological Information

Ecotoxicity:

Data on 2,4-D Dimethylamine Salt

96-hr LC50 Bluegill:	524 mg/l	Bobwhite Quail Oral LD50:	500 mg/kg
96-hr LC50 Rainbow Trout:	250 mg/l	Mallard Duck 8-day Dietary LC50:	> 5,620 ppm
48-hr EC50 Daphnia:	184 mg/l		

Data on Mecoprop-p:

96-hr LC50 Bluegill:	> 100 mg/l (literature)
48-hr EC50 Daphnia:	> 270 mg/l (literature)
72-hr EC50 Green Algae:	> 270 mg/l (literature)

Data on Dicamba:

96-hr LC50 Bluegill:	135 mg/l	Bobwhite Quail 8-day Dietary LC50:	> 10,000 ppm
96-hr LC50 Rainbow Trout:	135 mg/l	Mallard Duck 8-day Dietary LC50:	> 10,000 ppm
48-hr EC50 Daphnia:	110 mg/l		

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. Mecoprop-p DMA rapidly dissociates to parent mecoprop-p in the environment. In soil, mecoprop-p is microbially degraded with a typical half-life of approximately 11-15 days. Dicamba poorly binds to soil particles, is potentially mobile in the soil and highly soluble in water. Aerobic soil metabolism is the main degradative process for dicamba with a typical half-life of 2 weeks. Degradation is slower when low soil moisture limits microbe populations. In water, microbial degradation is the main route of dicamba dissipation. Aquatic hydrolysis, volatilization, adsorption to sediments, and bioconcentration are not expected to be significant.

Section 13—Disposal Considerations

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.
Container: Triple rinse (or equivalent) the empty containers. Then offer for recycling or reconditioning.
RCRA characteristics: : Acetic Acid, 2,4-Dichlorophenoxy) – (CAS No. 94-75-7) U240

Section 14—Transport Information

Less than or equal to 41 Gallons per completed package: Not regulated by U.S. DOT as a hazardous material.

Greater than 41 Gallons per completed package:
UN 3082, Environmentally hazardous substances, liquid, n.o.s. (2,4-D Salt), 9, III, RQ

Section 15—Regulatory Information

TSCA Inventory: Exempt, solely for FIFRA regulated use.

SARA Title III, Section 311/312:		Immediate:	**Yes**	Delayed:	**Yes**
Sudden Release of Pressure:	**No**	Fire:	**No**	Reactive:	**No**

SARA Title III, Section 313: Acetic Acid, (2,4-Dichlorophenoxy) – (CAS No. 94-75-7), 25.38% equivalent by weight in product.
Dicamba (CAS No. 1918-00-9), 2.30% equivalent by weight in product
CERCLA: Acetic Acid, (2,4-Dichlorophenoxy) – (CAS No. 94-75-7) 100 pounds; Dicamba (CAS No. 1918-00-9) 1000 pounds

PROPOSITION 65: WARNING: This product may contain chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

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.

1-17-12: Updated all sections