

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****Product Name:** Weedmaster® Herbicide**EPA Reg. No.:** 71368-34**Synonyms:** Mixture of 2,4-D and Dicamba**Product Type:** Herbicide**Company Name:** Nufarm Inc.  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527**Telephone Numbers:** For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,  
Call CHEMTREC Day or Night: 1-800-424-9300  
For Medical Emergencies Only, Call 1-877-325-1840**Date of Issue:** June 20, 2012**Supersedes:** July 16, 2008**Sections Revised:** 2, 7, 8, 13**2. HAZARDS IDENTIFICATION****Emergency Overview:****Appearance and Odor:** Amber colored liquid with a mild amine odor.**Warning Statements:** Keep out of reach of children. DANGER. Causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing.**Potential Health Effects:****Likely Routes of Exposure:** Inhalation, skin and eye contact.**Eye Contact:** Causes substantial but temporary eye injury.**Skin Contact:** This product is considered a minimal skin irritant and is not a dermal sensitizer.**Ingestion:** This product may be harmful if swallowed based on toxicity studies.**Inhalation:** This product is practically non-toxic based on toxicity studies.**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. 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	35.7
Dimethylamine Salt of Dicamba (3,6-Dichloro-o-anisic Acid)	2300-66-5	12.4
Other Ingredients		51.9

**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.

**5. FIRE FIGHTING MEASURES**

**Flash Point:** Not applicable due to aqueous formulation

**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, nitrogen oxides, and carbon oxides.

**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. ACCIDENTIAL 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 or on clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately, if

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

**Storage:**

Do not store below 32° F or above 100° F. Store in original container in a well-ventilated area separately from fertilizer, feed and foodstuffs. Avoid cross-contamination with 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, shoes plus socks, chemical-resistant gloves. When a mechanical system is not used, mixers and loaders must wear coveralls and 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>
DMA Salt of Dicamba	NE	NE	NE	NE	

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

NE = Not Established

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

**Boiling Point:** Not determined

**Solubility in Water:** Soluble

**Density:** 9.69 pounds/gallon

**Specific Gravity:** 1.165 g/cc @ 25°C

**Evaporation Rate:** Not determined

**Vapor Density:** Not determined

**Freezing Point:** 32°F (0°F)

**Vapor Pressure:** Not determined

**pH:** 8.5

**Viscosity:** 9.507 cps @ 25°C

**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.

<b>10. STABILITY AND REACTIVITY</b>
-------------------------------------

**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, nitrogen oxides, and carbon oxides.

**Hazardous Reactions:** Hazardous polymerization will not occur.

<b>11. TOXICOLOGICAL INFORMATION</b>
--------------------------------------

**Toxicological Data:**

Data from laboratory studies conducted on this product are summarized below:

**Oral:** Rat LD<sub>50</sub>: 1,256 mg/kg (females) and >2,000 mg/kg (males)

**Dermal:** Rabbit LD<sub>50</sub>: >5,000 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: >2.07 mg/L

**Eye Irritation:** Rabbit: Severely irritating

**Skin Irritation:** Rabbit: Slightly irritating

**Skin Sensitization:** Not a contact sensitizer in guinea pigs following repeated skin exposure.

**Subchronic (Target Organ) Effects:** Repeated overexposure to phenoxy herbicides may cause effects to liver, kidneys, blood chemistry, 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. Repeated overexposure to dicamba may cause liver changes or a decrease in body weight.

**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, more current 2,4-D lifetime feeding studies in rats and mice did not show carcinogenic potential. Dicamba did not cause cancer in long-term animals studies. The U.S. EPA has given 2,4-D and dicamba a Class D classification (not classifiable as to human carcinogenicity).

**Reproductive Toxicity:** No impairment of reproductive function attributable to 2,4-D have been noted in laboratory animal studies. Dicamba did not interfere with fertility in reproduction studies in laboratory animals.

**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. 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 2,4-D is not mutagenic. Animal tests with dicamba have not demonstrated mutagenic effects.

**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

See Section 2: HAZARDS IDENTIFICATION for more information.

<b>12. ECOLOGICAL INFORMATION</b>
-----------------------------------

**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 Dicamba:

96-hour LC <sub>50</sub> Bluegill:	135 mg/l	Bobwhite Quail 8-day Dietary LC <sub>50</sub> :	>10,000 ppm
96-hour LC <sub>50</sub> Rainbow Trout:	135 mg/l	Mallard Duck 8-day Dietary LC <sub>50</sub> :	>10,000 ppm
48-hour EC <sub>50</sub> 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. 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.

<b>13. DISPOSAL CONSIDERATIONS</b>
------------------------------------

**Waste Disposal Method:**

Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Handling and Disposal:**

**Nonrefillable Containers 5 Gallons or Less:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. 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.

**Nonrefillable containers larger than 5 gallons:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning not available, 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. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or

disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable containers larger than 5 gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**Or**

**Refillable Container:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 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.

##### DOT

≤ 30 gallons per complete package

Non Regulated

> 30 but ≤ 925 gallons per complete package

RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(2,4-D SALT), 9, UN 3082, III

>925 gallons per complete package

RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(2,4-D SALT, DICAMBA), 9, UN 3082, III

##### IMDG

Non-regulated

##### IATA

Non Regulated

#### 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 and Delayed

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

Acetic Acid, (2,4-Dichlorophenoxy) - (CAS No. 94-75-7), 29.6% equivalent by weight in product  
Dicamba (CAS No. 1918-00-9), 10.3% equivalent by weight in product

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

Acetic Acid, (2,4-Dichlorophenoxy) - (CAS No. 94-75-7) 100 pounds  
Dicamba (CAS No. 1918-00-9) 1,000 pounds

##### **RCRA Waste Code:**

Acetic Acid, (2,4-Dichlorophenoxy) - (CAS No. 94-75-7) U240

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** Not listed

<b>16. OTHER INFORMATION</b>
------------------------------

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.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm, Inc. be responsible for damages of any nature whatsoever resulting from the use or of reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

Weedmaster is a registered trademark of Nufarm Australia Limited