



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.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nufarm KambaMaster™ Herbicide
Synonyms: Herbicide Mixture of DMA Salt of 2,4-D and DMA Salt of Dicamba
EPA Reg. No.: 71368-34

Company Name: Nufarm, Inc.
 1333 Burr Ridge Parkway, Suite 125A
 Burr Ridge, IL 60527

Date of Issue: April 21, 2005 **Supersedes:** August 10, 2001
Sections Revised: All - new ANSI format

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 substantial but temporary eye injury. Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing spray mist.

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.

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 determined

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): 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: 2 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 or on clothing. Avoid contact with skin. Avoid breathing spray mist. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately, if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protection

Equipment 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 contaminate water, food or feed by storage or disposal. 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

If this container is five gallons or more in capacity, do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of non-refillable pesticide containers are emptied, the probe must be rinsed before removal. For containers greater than one gallon but less than five gallons, use a mechanical system (probe and pump), enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler Personal Protective Equipment requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(4-6)], then handler PPE requirements may be reduced or modified as specified in the WPS.

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 should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt and shoes plus socks. When a mechanical system is not used, mixers and loaders must wear coveralls and a chemical-resistant apron. An emergency shower 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 ³
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 available

Solubility in Water: Soluble

Density: 9.69

Specific Gravity: 1.165 g/cc @ 25°C

Evaporation Rate: Not available

Vapor Density: Not available

Freezing Point: 32°F (0°F)

Vapor Pressure: Not available

12. ECOLOGICAL INFORMATION

This product is toxic to aquatic invertebrates. Drift and runoff may adversely affect aquatic invertebrates and non-target plants. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of 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.

Ecotoxicity:

Data on 2,4-D Dimethylamine Salt

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

Data on Dicamba

96-hour LC ₅₀ Bluegill:	135 mg/l
96-hour LC ₅₀ Rainbow Trout:	135 mg/l
48 hour EC ₅₀ Daphnia:	110 mg/l
Bobwhite Quail 8 day Dietary LC ₅₀ :	>10,000 ppm
Mallard Duck 8 day Dietary LC ₅₀ :	>10,000 ppm

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 has low bioaccumulation potential, is not persistent in soil, is highly mobile in soil and degrades rapidly.

13. DISPOSAL CONSIDERATIONS

Do not contaminate water, food or feed by storage or disposal.

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:

Plastic Bottles and Non-Returnable Plastic Drums: Triple rinse (or equivalent) and add rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Returnable/Refillable Containers: After use, return the container to the point of purchase or designated locations. This container must only be refilled with this product. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. If the container is not being refilled, return it to the point of purchase.

14. TRANSPORTATION INFORMATION

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

For Department of Transportation (DOT) regulatory information, if required, consult transportation regulations, product-shipping papers or call Nufarm's DOT Manager at 708-755-2104, Monday through Friday, 8:00 AM to 5:00 PM Central Time.

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), 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

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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