MATERIAL SAFETY DATA SHEET

WINFIELD SOLUTIONS, LLC

PRODUCT NAME(S)

For Medical Emergency Call 877-424-7452 or
Chem Trec: 800-424-9300 (transportation and spills)

BRASH

Effective Date: 09/12/07
Last Revised:

I. IDENTIFICATION

CHEMICAL NAME OF PRIMARY COMPONENT(S): 3,6-dichloro-*o*-anisic acid dimethylamine salt
Dimethylamine salt of 2,4-dichlorophenoxyacetic acid

FORMULA: Dicamba: $C_{10}H_{13}Cl_2NO_3$
2,4 D: $C_{16}H_{22}Cl_2O_3$

MOLECULAR WEIGHT: Dicamba: 266.1
2,4 D: 267.04

SYNONYMS: Dicamba dimethylamine
DMA Salt of 2,4D

CAS # & NAME: 2300-66-5 - Dicamba
2008-38-1 - DMA Salt of 2,4D

EPA Reg No. 1381-202

II. INGREDIENTS/SUMMARY OF HAZARDS

INGREDIENT(S)	CAS NUMBER	OSHA HAZARD (H) NON-HAZARD (NH)	PERCENT
Dicamba dimethylamine salt	2300-66-5	H	12.4
2,4 D dimethylamine salt	2008-39-1	H	35.7
Formulation aids		NH	51.9

	NFPA [1/]	HMIS [2/]
HEALTH	3	3
FIRE	0	0
REACTIVITY	0	0

1/ National Fire Protection Association Rating
2/ Hazardous Materials Identification System
(4 = Extreme/Severe 3 = High/Serious 2 = Moderate 1 = Slight 0 = Minimum)

SARA TITLE III HAZARD CLASSIFICATION

IMMEDIATE (ACUTE) HEALTH	Yes
DELAYED (CHRONIC) HEALTH	No
FIRE	No
SUDDEN RELEASE OF PRESSURE	No
REACTIVE	No

III. PHYSICAL DATA

SPECIFIC GRAVITY: 1.17
BOILING POINT: 215^0 F
FREEZING POINT: Not determined
VAPOR PRESSURE: 18mm Hg
SOLUBILITY IN WATER: Miscible
APPEARANCE: Clear amber to light brown liquid
ODOR: Mild amine odor

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Not combustible
FLAMMABLE LIMITS IN AIR: Not determined
AUTOIGNITION TEMPERATURE: Not determined
EXTINGUISHING MEDIA: Use carbon dioxide or dry chemical for small fires and water fog or foam (alcohol, polymer or ordinary) for large fires.
UNUSUAL FIRE AND EXPLOSION HAZARDS: May yield steam, dicamba amine salt, organochlorine products, hydrogen chloride, oxides of nitrogen and carbon.
SPECIAL FIRE FIGHTING PROCEDURES: Fire fighters should use self contained breathing apparatus and full turnout gear. Prevent runoff of fire water. Avoid exposure to smoke.

V. REACTIVITY DATA

STABILITY: Stable under normal conditions.
CONDITIONS TO AVOID: Extreme heat conditions
MATERIALS TO AVOID: Strong acids and bases
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, oxides of nitrogen and carbon
HAZARDOUS POLYMERIZATION: Will not occur

VI. HEALTH HAZARD DATA/FIRST AID PROCEDURES

TOXICOLOGY DATA:

Acute Oral LD_{50} (rat): >1150 mg/kg
Acute Dermal LD_{50} (rabbit): > 2000 mg/kg
Acute Inhalation 4 hr (Rat): >20.3 mg/L
Eye Irritation (rabbit): Corrosive
Dermal Irritation (rabbit): Minimal irritant
Dermal Sensitization: Not expected to cause skin sensitization

EXPOSURE LIMITS:

CHEMICAL NAME(S)	ACGIH (TLV)	OSHA (TWA)
Dicambe dimethylamine salt	Not established	Not established
2,4 D dimethyl amine salt	10 mg/m^3	10 mg/m^3

CARCINOGENICITY, TERATOGENICITY, MUTAGENICITY: Dicamba is not listed as a carcinogen by NRC, IARC or OSHA. The International Agency for Research on Cancer (IARC) lists exposure to chlorophenoxy herbicides as a class 2B carcinogen, limited evidence for carcinogenicity in humans. The Science Advisory Panel of EPA has given a Class D classification (not classifiable as to human carcinogenicity) and has required additional animal studies on 2,4 D. Animal studies with the active ingredients (2,4 D) in this product have shown that they are not mutagenic or teratogenic.

SIGNS OF POISONING: Salivation, tremor. When 2,4 D is administered in large doses to animals, the most characteristic sign of poisoning is myotonia.

PRIMARY ROUTES OF ENTRY: Eye and skin contact, ingestion

EFFECTS OF SINGLE OVEREXPOSURE:

Swallowing: May cause gastric distress, salivation, tremor, nausea, vomiting, abdominal pain, muscle weakness, myotonia and fall in blood pressure.

Skin Absorption: May cause irritation and redness. May lead to nausea, abdominal pain, muscle weakness, myotonia and fall in blood pressure.

Inhalation: None known

Eye Contact: May cause severe irritation, may be corrosive

EFFECTS OF REPEATED OVEREXPOSURE: Prolonged or repeated overexposure may cause severely irritated eyes, skin redness and irritation, salivation and/or tremor.

OTHER EFFECTS OF OVEREXPOSURE: May cause lung congestion, erythema and edema. Repeated overexposure to phenoxy herbicides may cause liver, kidney, gastrointestinal, and muscular effects. 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.

EXISTING MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE: Skin contact may aggravate preexisting skin conditions. Inhalation of mists may aggravate preexisting respiratory conditions.

EMERGENCY AND FIRST AID PROCEDURES:

Swallowing: Call physician or poison control center. If patient is alert and not convulsing give 1 - 2 glasses of milk, egg whites, gelatin solution or water. Do not induce vomiting. Do not give anything by mouth to an unconscious person.

Skin: Wash affected area with plenty of soap and water. Remove contaminated clothing. Launder contaminated clothing separately.

Inhalation: Remove victim to fresh air. If not breathing, administer artificial respiration. GET MEDICAL ATTENTION.

Eyes: Hold eyelids open and flush with a steady stream of water for at least 15 minutes. GET MEDICAL ATTENTION.

NOTE TO PHYSICIAN: No specific antidote is available. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. The stomach should be evacuated by gastric intubation. After removal of stomach contents, wash stomach by instilling 30-50 g of activated charcoal in 3-4 ounces of water through the stomach tube and again remove stomach contents. Avoid oily laxatives.

This product contains a phenoxy herbicide. Myotoxic effects may include muscle fibrillation, myotonia, and muscular weakness. Ingestion of massive doses may result in persistent fall of blood pressure. Myoglobin and hemoglobin may be found in urine. Elevations in lacate dehydrogenase (LDH), SGOT, SGPT and aldolase indicate the extent of muscle damage. It has been suggested that overexposure in humans may affect both the central and peripheral nervous systems. The acute effects on the central nervous system resemble those produced by alcohol or sedative drugs. In isolated cases, peripheral neuropathy and reduced nerve conduction velocities have been reported although these observation may be related to other factors.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Dike the area using absorbent or materials such as sand or clay. Recover and contain as much product as possible using absorbent. Clean spill area using a solution of water and detergent. Collect and contain wash water and all contaminated absorbent for disposal. If spilled on the ground, the affected area should be excavated to a depth of 1 - 2 inches. Prevent the spilled product or washings from reaching public sewers or waterways. Wear appropriate protective equipment during the cleanup. Ensure that tools and equipment are adequately decontaminated.

WASTE DISPOSAL METHOD: Dispose of in accordance with federal, state and local regulations.

CONTAINER DISPOSAL: Dispose of in an approved facility according to federal, state and local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a cool, dry, secure area.

VIII. SPECIAL PROTECTION INFORMATION

PROTECTIVE EQUIPMENT SHOULD BE USED DURING THE FOLLOWING PROCEDURES:

- Manufacture or formulation of this product.
- Repair and maintenance of contaminated equipment.
- Clean up of leaks and spills.
- Any other activity that may result in hazardous exposures.
- Refer to product label for PPE required for labeled use.

RESPIRATORY PROTECTION: If required, use NIOSH/MSHA approved respirator for organic vapors. Use positive pressure contained breathing apparatus where emergency conditions or where exposure limits are exceeded.

VENTILATION: Local exhaust

PROTECTIVE CLOTHING: Chemical resistant gloves, coveralls, apron and foot coverings.

EYE PROTECTION: Safety goggles.

USER SAFETY RECOMMENDATIONS: Safety showers and eye wash should be easily accessible.

IX. REGULATORY STATUS

TSCA INVENTORY STATUS:
TRANSPORTATION STATUS:
DOT INFORMATION:

Container Capacity	Proper Shipping Name	Hazard Class	Label	Packing Group
<28 gallons – Not regulated				
= or > 28 gallons – 827 gallons:	RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., 9, UN 3082, PG III (2,4-D DICHLOROPHENOXY ACETIC ACID/2,4-D),	9	9 (3082)	III
> 827 gallons	ERG GUIDE 171 RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., 9, UN3082, PG III, (2,4-DICHLOROPHENOXY ACETIC ACID/2,4-D, DICAMBA) ERG GUIDE 171	9	9 (3082)	III

SARA TITLE III

Section 302-304 (40 CFR 350): Not listed
Extremely Hazardous Substance (EHS): Not applicable
Section 312, Reporting (40 CFR 370):
SARA/OSHA Hazardous Chemical Reporting Quantity: 10,000 pounds
Section 313, Toxic Chemicals: Dicamba, 2,4 D salts and esters
Reportable Quantity (RQ): Dicamba - 1,000 pounds – Containers greather than 827.6 gal.
2,4 D salts and esters – 100 pounds – Containers greater than 28.7 gal.

RCRA HAZARDOUS WASTE: 2,4 D salts and esters D016
International Right-To-Know Regulations:

X. REFERENCES

1) Supplier sponsored studies.

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH,
BUT, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE.