

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:** 2,4-DB 200 Herbicide  
**EPA Reg. No.:** 71368-46-81315  
**Synonyms:** 4-(2,4-DB), Dimethylamine Salt; 2,4-DB-DMAS; Dimethylamine 4-(2,4-Dichlorophenoxy) Butyrate  
**Product Type:** Herbicide  
  
**Company Name:** S.R.F.A., LLC  
One Hollow Lane  
Lake Success, NY 11042  
  
**Date of Issue:** February 4, 2008      **Supersedes:** New  
**Sections Revised:** New

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview:

**Appearance and Odor:** Amber colored liquid with slight phenoxy odor.

**Warning Statements:** Keep out of reach of children. DANGER. Corrosive. Causes irreversible eye damage. Due to corrosive nature, may be harmful or fatal if swallowed. May be harmful if inhaled or absorbed through skin. Do not get in eyes, on skin or clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### Potential Health Effects:

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

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

**Skin Contact:** Slightly irritating. Overexposure by skin absorption may cause symptoms similar to those for ingestion. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**Ingestion:** May be harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

**Inhalation:** May be harmful if inhaled. Overexposure may cause upper respiratory tract irritation and symptoms similar to those from ingestion.

**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 slightly toxic to aquatic invertebrates. Drift or runoff may adversely affect non-target plants.

See Section 12: ECOLOGICAL INFORMATION for more information

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Dimethylamine Salt of 4-(2,4-dichlorophenoxy) butyric acid	2758-42-1	26.20
Other Ingredients		73.80

**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 the use of gastric lavage.

**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 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 clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 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.

**Storage:**

Always use original container to store pesticides in a secured warehouse or storage building. Store at temperatures above 32°F. If product is allowed to freeze, warm to 50°F and agitate thoroughly before using. Containers should not be stacked more than six (6) high. Do not store this product near fertilizers, seeds, insecticides or fungicides. 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. For overhead exposure, wear chemical-resistant headgear. 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	
2,4-DB-DMAS	NE	NE	NE	NE	

NE = Not Established

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance and Odor:** Amber colored liquid with slight phenoxy odor.

**Boiling Point:** >212°F (>100°C)

**Solubility in Water:** Soluble

**Density:** 9.14 pounds/gallon

**Specific Gravity:** 1.097 @ 20C

**Evaporation Rate:** Not determined

**Vapor Density:** Not determined

**Freezing Point:** 32°F (0°C)

**Vapor Pressure:** Not determined

**pH:** 8.0 – 9.0

**Viscosity:** Not determined

**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.

**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:

Except as noted, data from laboratory studies conducted on a similar, but not identical, formulation:

**Oral:** Rat LD<sub>50</sub>: >2,500 mg/kg

**Dermal:** Rabbit LD<sub>50</sub>: >2,000 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: >5.0 mg/L

**Eye Irritation:** Rabbit: Severely irritating/corrosive (this product)

**Skin Irritation:** Rabbit: Slightly irritating (this product)

**Skin Sensitization:** Guinea Pigs: Sensitizing (this product)

**Subchronic (Target Organ) Effects:** Repeated overexposure may cause effects to liver, kidneys, heart, thyroid, adrenals, blood chemistry, stomach and reduced body weight gain.

**Carcinogenicity / Chronic Health Effects:** Chronic effects were observed in liver, kidney, heart and blood chemistry. 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-DB lifetime feeding studies in rats and mice did not show carcinogenic potential.

**Reproductive Toxicity:** No impairment of reproductive function attributable to 2,4-DB has been noted in laboratory animal studies. At doses toxic to parental animals, there were effects to kidneys, adrenals and ovaries of offspring. At the highest dose, offspring mortalities and growth reductions were observed during lactation.

**Developmental Toxicity:** Studies in laboratory animals with 2,4-DB have shown early resorptions, decreased fetal body weights and skeletal variations in the offspring at doses toxic to mother animals. These are considered to result from maternal toxicity.

**Genotoxicity:** Genotoxicity studies on 2,4-DB have been predominately negative indicating no concern for mutagenicity.

### 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: HAZARDOUS IDENTIFICATION for more information.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

Data on 2,4-DB Acid:

96-hour LC <sub>50</sub> Bluegill:	7.5 mg/l	Bobwhite Quail Dietary LC <sub>50</sub> :	>5,000 ppm
96-hour LC <sub>50</sub> Rainbow Trout:	2 mg/l	Mallard Duck Dietary LC <sub>50</sub> :	>5,000 ppm
48-hour EC <sub>50</sub> Daphnia:	25 mg/l		

### Environmental Fate:

In laboratory and field studies, 2,4-DB-DMAS rapidly dissociated to parent acid in the environment. The average field half-life of 2,4-DB is approximately 7 days.

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

Pesticide wastes are hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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:**

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**14. TRANSPORTATION INFORMATION**

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

**DOT**

Non Regulated – See 173.132(b)(3)

**IMDG**

Non Regulated - See IMDG 2.6.2.1.3

**IATA**

Non Regulated - See IATA 3.6.1.5.3

**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):**

2,4-DB (CAS No. 94-82-6)- 22.2% equivalent by weight in product

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

None

**RCRA Waste Code:**

None

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** For exposure greater than the Maximum Allowable Dose Level (MADL) of 910 ug/day, 2,4-DB acid is listed by the state as a substance known to cause reproductive toxicity.

**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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