SAFETY DATA SHEET

DREXEL 2,4-DB DMA 200

Section 1: Material Identification

Product Name: Drexel 2,4-DB DMA 200

EPA Reg No.: 19713-676

CAS NO: 2758-42-1

Formula: $C_{13}H_{17}Cl_2NO_3$

Company: Drexel Chemical Company
1700 Channel Avenue
Memphis, TN 38106

Synonyms: 4-(2,4-Dichlorophenoxy) butyric acid dimethylamine salt

Identifiers:

EINECS: 220-422-0

DOT information: See Section 14 for Transportation Information

Emergency Telephone Number:

CHEMTREC	Drexel Chemical Co.
Tel: 1-800-424-9300	901-774-4370

This product is an EPA FIFRA registered pesticide. Some of the classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see **Section 15: REGULATORY INFORMATION** for explanation.

Section 2: Hazard Identification

(As defined by the OSHA Hazard Communication Standard, 29)

GHS classification:

Health hazards:	Acute toxicity - oral	Category 4
	Acute toxicity – inhalation	Category 4
	Eye damage/irritation	Category 1
	Skin corrosion/irritation	Category 2
Environmental hazards:	Hazardous to the aquatic environment – acute hazard	Category 2

GHS label elements:

Signal word: Danger

Hazard statements:
Harmful if swallowed.
Harmful if inhaled.
Causes serious eye damage.
Causes skin irritation.
Toxic to aquatic life.

Precautionary statements:

Prevention:
Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
Avoid breathing mist/vapor/spray. Use only outdoors or in well ventilated area.
Wear eye protection/face protection. Wear protective gloves.
Avoid release to environment.

Response:
If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth.
If inhaled: Remove person to fresh air and keep comfortable for breathing. **Call a POISON CENTER/doctor if you feel unwell.**
If in eyes: Rinse cautiously with water for several minutes. Remove contacts, if present and easy to do. Continue rinsing.
If on skin: Wash with plenty of water. **If skin irritation occurs:** Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Collect spillage.

Storage:
Store in a well-ventilated place. Keep container closed.

Disposal:
If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

Section 3: Composition Information

Components	CAS No.:	% By Wt.:	OSHA PEL:	ACGIH TLV:
Active ingredient:				
4-(2,4-Dichlorophenoxy) butyric acid dimethylamine salt	2758-42-1	26.1%	N/Av	N/Av
Other ingredients:	N/A	73.9%	N/A	N/A

Section 4: First-Aid Measures

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water, 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 or Clothing: 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 in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air; if person not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Rinse eye(s) with running water for at least 20 minutes. If only one eye is affected, avoid washing substance into the unexposed eye. Treat symptomatically. In case of ingestion of concentrate, probable mucosal damage may contraindicate the use of gastric lavage. Repeat doses of activated charcoal are contraindicated if the patient has absent bowel sounds because of the risk of obstruction. Maintain respiration, monitor ECG and blood gases. Correct acidosis with i.v. sodium bicarbonate. Control convulsions with diazepam and treat hypotension with volume replacement and inotropes (e.g., dopamine or dobutamine) as necessary. Monitor CPK for rhabdomyolysis. Forced alkaline diuresis in the treatment of severe phenoxy acid poisoning is no longer recommended due to risk of electrolyte imbalance. Urinary alkalinization is less hazardous. The recommended regimen for urinary alkalinization is as follows: To maintain urine pH greater than 7.5, adults should be given 50 ml boluses of 8.4% sodium bicarbonate i.v. and/or 1 liter of 1.26% sodium bicarbonate plus 40 nmol potassium i.v. over 4 hours. Children should be given 1 ml/kg of 8.4% sodium bicarbonate plus 20 nmol potassium diluted in 500 ml dextrose saline infused at 2 to 3 ml/kg/hour. These guidelines are subject to review and a Poison Control Center should be contacted in each case where treatment is likely to be necessary.

Section 5: Fire Fighting Measures

Fire Hazards: Heat may cause container to expand and rupture. Dense smoke is produced when product burns.

Flammability classification (OSHA 29 CFR 1910.1200): Non-combustible
Flash point: >100°C
Lower flammable limit (% by volume): N/Av
Upper flammable limit (% by volume): N/Av

Extinguishing Media: Water fog or fine spray, Dry chemical fire extinguishers, Carbon dioxide fire extinguishers, Foam.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. If water is used, use a fine water or fog to avoid contamination. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Move container from fire area if this is possible without hazard. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the “Accidental Release Measures” and the “Ecological Information” sections of this SDS.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Unusual Fire and Explosion Hazards: Container may rupture from gas/vapor generation in a fire situation. Dense smoke is produced when product burns.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to trace amounts of: Carbon monoxide, Carbon dioxide as well as other asphyxiates.

National Fire Protection Association:

NFPA:	Health:	Flammability:	Reactivity:
	2	1	0

(Rating: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Insignificant)

Section 6: Accidental Release Measures

Steps to be taken if Material is Released or Spilled:

- Contain spilled material if possible. Small spills: Apply suitable absorbent and sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Drexel Chemical Co. for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

Personal Precautions:

- Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Section 7: Handling and Storage

KEEP OUT OF REACH OF CHILDREN

Handling: **General Handling:** Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not swallow. Avoid breathing dust. Use with adequate ventilation. Keep container closed. Keep away from heat, sparks and flame. Keep out of reach of children. See Section 8, Exposure Controls and Personal Protection.

Storage: Store in a cool, dry areas designated specifically for pesticides and away from heat sources. Keep in original containers and keep containers closed when not in use. Do not store near children, food, foodstuffs, drugs or potable water supplies.

Section 8: Exposure Controls / Personal Protection

Exposure Limits: TLV: N/Av

Personal Protection:

Eye/Face Protection: Wear/Use protective eyeglasses or chemical safety goggles.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and

watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene, Nitrile/butadiene rubber (“nitrile” or “NBR”) or Polyvinyl chloride (“PVC” or “vinyl”). The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator such has a OSHA/NIOSH-approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls:

Ventilation: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations and is preferred.

Section 9: Physical and Chemical Properties

Physical State:	Liquid
Color:	Yellow-amber
Odor:	Mild amine-like
Odor threshold:	N/Av
pH:	8.5-9.5 @ 21°C
Melting point/freezing point:	N/A
Solubility (water):	Slight
Boiling point:	N/A
Flash Point:	Non-combustible
Evaporation rate:	N/Av
Flammability (solid, gas):	N/Av
Upper/lower flammability or explosive limits:	N/Av
Vapor Pressure (mmHg):	N/Av
Vapor density:	N/Av
Density:	1.092 g/cc @ 21°C
Partition coefficient: n-octanol/water:	N/Av
Auto-ignition temperature:	N/Av
Decomposition temperature:	N/Av
Viscosity:	23.8 cP @ 21°C
Explosive properties:	N/Av
% Volatiles:	N/A

Section 10: Stability and Reactivity

Stability/Instability: Thermally stable at typical use temperatures and in closed containers.

Conditions to Avoid: Avoid contact with strong oxidizers.

Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous Polymerization: Will not occur

Thermal Decomposition: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide, Carbon dioxide, Chlorine-containing compounds.

Section 11: Toxicological Information

Acute Toxicity:

Ingestion:

- LD50, Rat: 700 mg/kg

Dermal (rat):

- LD50, (rat): >2,000 mg/kg

Inhalation:

- N/Av

Eye Irritation (rabbit):

- All irritation cleared in 7 days

Skin Irritation (rabbit):

- No irritation at 27 and 72 hours

Sensitization Skin:

- N/Av

Repeated Dose Toxicity:

- In animals, effects have been reported on the following organs: Liver, Kidney, Gastrointestinal tract, Muscles. Observations in animals include: Gastrointestinal irritation, Vomiting.

Specific target organ toxicity from single and repeated exposures:

- N/Av

Carcinogenicity Classifications:

- No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP or OSHA.

Developmental Toxicity:

- Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals. 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.

Reproductive Toxicity: In laboratory animals, excessive doses toxic to the parent animals caused specific developmental abnormalities, decreased weight and survival of offspring.

Genetic Toxicology: In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were predominantly negative.

Section 12: Ecological Information

ENVIRONMENTAL FATE:
Movement & Partitioning: N/Av

Persistence and Degradability: N/Av

Stability in Water (1/2-life): N/Av

ECOTOXICITY:
Fish Acute Toxicity:

- LC50, Rainbow trout (Oncorhynchus mykiss), 96h: 1.97 mg/l
- LC50, Bluegill sunfish, 96h: 13mg/L

Aquatic Invertebrate AcuteToxicity:

- LC50, Water flea (Daphnia magna), 48h: 25 mg/l

Aquatic Plant Acute Toxicity:

- EC50, Green algae: 1.1 mg/L

Toxicity to Non-mammalian Terrestrial Species: Moderately toxic

- Dietary studies indicate 2,4-DB acid is practically non-toxic (>5000 ppm respectively) to waterfowl and upland game birds.

Section 13: Disposal Considerations

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

Section 14: Transport Information

DOT:
≤55 gallons: Not regulated
>55 gallons: UN 3082, Environmentally hazardous substance, liquid, n.o.s. (4-(2,4-Dichlorophenoxy)butyric acid), 9, PG-III, RQ 100 lbs.

IMDG: UN 3082, Environmentally hazardous substance, liquid, n.o.s. (4-(2,4-Dichlorophenoxy)butyric acid), 9, PG-III, RQ 100 lbs.

IATA: UN 3082, Environmentally hazardous substance, liquid, n.o.s. (4-(2,4-Dichlorophenoxy)butyric acid), 9, PG-III, RQ 100 lbs.

Freight description: Agricultural herbicide, liquid, n.o.s.

ERG No.: 171

This information is not intended to convey all specific regulatory or operational requirements/information relating to this

product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Regulatory Information

OSHA Hazard Communication Standard:

- **This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

EPA FIFRA INFORMATION:

- This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemical. The hazard information required on the pesticide label is listed out below. The pesticide label also includes other important information, including directions for use.
- Label Human Hazard Statements: DANGER: Corrosive. Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes, on skin or on clothing. Remove and wash contaminated clothing before reuse.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312: Acute health hazard

U.S. FEDERAL REGULATIONS

- **Section 313 Toxic Chemical(s):** 4-(2,4-Dichlorophenoxy)butyric acid CAS:2758-42-1: 22.1% equivalent by weight
- **Section 311/312 Hazardous categories:** Immediate and delayed health
- **Reportable Quantity (RQ) under U.S. CERCLA:** None
- **RCRA Waste Code:** Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):

- 2.4-DB Acid is listed

Toxic Substances Control Act (TSCA):

- All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

Section 16: Other Information

Drexel Chemical Company recommends that each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown below. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.

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