



SAFETY DATA SHEET

Product: MARC 20 DOOMSDAY+

Form R0319

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER AND NAME: MARC 20 DOOMSDAY+

SDS DATE: 02/28/2023

SUPPLIER: Mid-American Research Chemical Corp.

ADDRESS: P. O. Box 927 • Columbus, NE 68602-0927

PHONE: 402-564-7104 FAX: 402-563-1290

EMERGENCY PHONE: InfoTrac 1-800-535-5053

E-MAIL: marc1@marc1.com WEBSITE: www.marc1.com

RECOMMENDED USE: Herbicide.

PREPARED BY: MARC

SECTION 2: HAZARDS IDENTIFICATION

OSHA HCS CLASSIFICATION (29 CFR 1910.1200) Acute Toxicity:

	Acute oral	Acute dermal	Acute inhalation	Eye irritation	Skin irritation	Skin Sensitization
Category	4	Not Classified	4	1	2	Not Classified

SIGNAL WORD: DANGER



HAZARD STATEMENTS:

- Harmful if swallowed
- Harmful if inhaled
- Cause serious eye damage
- Cause skin irritation

PRECAUTIONARY STATEMENTS:

Wash hand thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: call a poison center or doctor if you feel unwell. Rinse mouth. Avoid breathing mist, vapors and spray. Use only outdoors or in a well-ventilated area. If inhaled: remove a person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell. Wear eye or face protection. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuing rinsing. Immediately call a poison center or doctor. Wash hand thoroughly after handling. Wear protective gloves. If on skin: wash with plenty of water. If skin/irritation occurs: Get medical advice. Take off contaminated clothing and wash it before reuse. Contact Safety Call[®] International for emergency medical treatment at (866) 897-8050.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Dimethylamine Salt of 2,4-D	2008-39-1	40.0	10 mg/m3*	10 mg/m3*	NE	IARC-2B TLV-A4**
Dimethylamine Salt of Dicamba	2300-66-5	4.21	NE	NE	NE	NA
Quinclorac	84087-01-4	3.30	NE	NE	NE	NA
Dimethylamine 60%	124-40-3	> 1	10 ppm (TWA)	5 ppm (TWA) 15 ppm (STEL)	NE	NA

E=Not established; NA=Not applicable.

*Exposure Limits for 2,4-D.



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**Carcinogen classifications for 2,4-D. IARC lists exposure to chlorophenoxy herbicides as a class 2B carcinogen - the agent (mixture) is possibly carcinogenic to humans. There is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals. TLV-A4 - Not classifiable as a human carcinogen. "There are inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals."

SECTION 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 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 symptoms develop, get medical advice.

If on Skin or Clothing: Take off contaminated clothing. Wash thoroughly with soap and water. 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.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact SafetyCall® International (866)897-8050 for emergency medical treatment information.

Note to Physician: If in eyes, specialized ophthalmologic attention may be necessary. If swallowed, probable mucosal damage may contraindicate the use of gastric lavage. There is no specific antidote; treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

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 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, hydrochloric acid, and oxides of carbon and nitrogen.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment. Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

CLEANUP: Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Carefully open containers and after partial use close container tightly. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

PRECAUTIONS TO BE TAKEN IN STORAGE: KEEP FROM FREEZING. Store in safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Personnel should use clothing and equipment consistent with good pesticide handling. Do not store under conditions which might adversely affect the container or its ability to function properly.

STORAGE TEMPERATURE (MIN/MAX): Normal ambient temperatures.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.
FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

EYE PROTECTION: Wear protective eyewear (goggles, face shield, or safety glasses).

HAND PROTECTION: Chemical-resistant gloves such as butyl rubber > 14 mils, natural rubber > 14 mils, neoprene rubber > 14 mils, or nitrile rubber > 14 mils.

SKIN PROTECTION: Long-sleeved shirt and long pants. Shoes plus socks. Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

RESPIRATOR REQUIREMENTS: For most conditions, no respiratory protection required. However, if handling without sufficient ventilation, use NIOSH approved air-purifying respirator with any N, P or R95 class filter and an organic vapor cartridge.



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ADDITIONAL PROTECTIVE MEASURES:

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

USER SAFETY RECOMMENDATIONS:

Users Should:

- Wash hands, face and arms thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- 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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.
- Remove and wash contaminated clothing before reuse.

EXPOSURE GUIDELINES: Refer to Section 3.

ENGINEERING CONTROLS: Refer to product label. Provide local exhaust ventilation. Minimize airborne concentrations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Transparent dark amber liquid

ODOR: Moderate

pH: 8.48

FLASH POINT: NA

DENSITY: 1.155 g/cm³ (9.64 lbs/gal) at 25°C; 1.145g/cm³ (9.56 lbs/gal) at 39°C

VISCOSITY (cSt): 11.3 at 25°C; 6.49 at 39°C

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Avoid strong oxidizer and extreme temperature.

HAZARDOUS DECOMPOSITION PRODUCTS: Product can decompose if heated to form toxic gases.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES:

Acute Oral LD50 (Rat): > 1,098 mg/kg

Acute Dermal LD50 (Rat): > 2,000 mg/kg

Acute Inhalation LC50 (Rat): > 2.11 mg/L/4 hr

Eye Irritation (Rabbit): Severely irritating

Skin Irritation (Rabbit): Moderately irritating

Dermal Sensitization: Not a skin sensitizer

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

CHRONIC/SUBCHRONIC TOXICITY:

Quinclorac: Prolonged overexposure may cause effects to liver and kidneys.

REPRODUCTIVE TOXICITY:

Quinclorac: The results of animal studies gave no indication of a fertility impairing effect.

DEVELOPMENTAL EFFECTS:

Quinclorac: No indications of a developmental toxic/teratogenic effect were seen in animal studies.

MUTAGENICITY:

Quinclorac: No evidence of mutagenic effects during in vivo or in vitro studies.

2,4-D acid: Not known to be mutagenic.

Dicamba acid: Not known to be mutagenic.

CARCINOGENICITY:

Quinclorac: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

2,4-D, dimethylamine salt/2,4-D acid: IARC lists exposure to chlorophenoxy herbicides as a class 2B carcinogen - as agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals. EPA lists a D, unclassifiable due to ambiguous data.

Dicamba: EPA Group D – Not classifiable as to human carcinogenicity.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This product is toxic to fish and aquatic invertebrates and may adversely affect nontarget plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.



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ECOTOXICITY (Data based on 2,4-D acid):

Data based on 2,4-D:

LC50 (96h) for Rainbow Trout: 250 mg/l

LC50 (96h) for Bluegill Sunfish: 524 mg/l

EC50 (48h) for Daphnia: 184 mg/l

LD50 Bobwhite Quail: 500 mg/kg

LC50 (8-Day) Mallard Duck: > 5,620 ppm

ENVIRONMENTAL FATE: 2,4-D has a low binding affinity in soil and sediment particles and has been detected in groundwater at approximately 15 ppb, which is well below the drinking water levels of concern (DWLOC). Dissipation studies indicate that 2,4-D degrades rapidly in soils by its volatility, photolysis, and aerobic environments, with a half-life in soil and water at 6 to 15 days. 2,4-D is more persistent in anaerobic aquatic environments with a half-life ranging from 41 to 333 days.

Data based on Dicamba:

LC50 (96h) for Rainbow Trout: 135 mg/l

LC50 (96h) for Bluegill Sunfish: 135 mg/l

EC50 (48h) for Daphnia: 110 mg/l

LD50 (8-day) dietary Bobwhite Quail : > 10,000 ppm

LC50 (8-Day) dietary Mallard Duck: > 10,000 ppm

LD50 (48-h contact) Honey bee: > 100 µg/bee

ENVIRONMENTAL FATE: 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.

Data based on Quinclorac:

LC50 (96h) for Rainbow Trout: > 100 mg/l

LC50 (96h) for Bluegill Sunfish: > 100 mg/l

EC50 (48h) for Daphnia: 113 mg/l

LD50 oral Bobwhite Quail: 2,000 mg/kg

LC50 (8-Day) dietary Mallard Duck: > 5,000 ppm

LD50 (96-h) honey Bee: > 100µg/bee

ENVIRONMENTAL FATE: Quinclorac can be moderately persistent in the soil. Soil mobility of quinclorac is highly variable and depends on soil type and organic matter. The Koc, depending on soil type, ranged from 13 to 54. Quinclorac is stable to hydrolysis and photolysis.

SECTION 13: DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. 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 DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

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 and, if possible, spray all sides while adding 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.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (for ground/non-bulk containers)--

CONTAINER SIZES(S): All

PROPER SHIPPING NAME: WEED KILLING COMPOUND, DRY/LIQUID

HAZARD CLASS: None

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A



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SECTION 15: REGULATORY INFORMATION

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

DANGER Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. Avoid contact with skin. Do not get in eyes or on skin or clothing.

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.

Section 311/312: Acute health hazard (immediate)

Chronic health hazard (delayed)

Section 313: 2,4-D acid (CAS 94-75-7) (33.22%)

Dicamba acid (CAS 1918-00-9) (3.5%)

CA PROPOSITION 65: Not applicable.

CERCLA RQ: Dimethylamine Salt of 2,4-D (RQ 100 lbs.) = 26 gallons product

Dicamba acid (RQ 1000 lbs.)

RCRA CLASSIFICATION: 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.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

SECTION 16: OTHER INFORMATION

HMIS/NFPA Ratings: Health = 3 Flammability = 0, Reactivity = 1

N/A = Not Applicable, **N/D** = Not Determined, **N/E** = Not Established

DISCLAIMER: The information and recommendations contained herein are based upon data believed to be correct. However, no warranty of any kind, expressed or implied, is made with respect to the information contained herein.