

**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**COMPANY ADDRESS:** ALBAUGH, LLC  
Ankeny, IA 50021

**EMERGENCY TELEPHONE NUMBERS:**  
(800) 424-9300 (CHEMTREC, transportation and spills)

**PRODUCT NAME :** RANGE STAR  
**CHEMICAL NAME :** Dicamba dimethylamine salt and 2,4-D dimethylamine salt  
**PRODUCT USE :** Herbicide  
**PRODUCT CODE :** EPA Reg. No 42750-55

**SECTION 2 - HAZARDS IDENTIFICATION SUMMARY**

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Liquid

**HEALTH HAZARDS:** DANGER. Corrosive and severe eye irritant with permanent eye injury possible including blindness. Harmful if swallowed or absorbed through skin.

**PHYSICAL HAZARDS:** May release toxic fumes if burned.

**ENVIRONMENTAL HAZARDS:** 2,4-D DMA is toxic to some aquatic organisms. Dicamba is phytotoxic to some non-target terrestrial plant species.

**SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS**

COMPONENT	PERCENTAGE	CAS NUMBER
Dicamba DMA Salt	12.4	2300-66-5
2,4-D DMA Salt	35.7	2008-39-1
Other ingredients	51-9	n/a

**SECTION 4 - FIRST AID MEASURES**

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 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 OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 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 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.

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

**SECTION 5 - FIRE FIGHTING MEASURES**

National Fire Protection Rating (NFPA)

HEALTH	3
FLAMMABILITY	1
REACTIVITY	0
4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

**FLASHPOINT:** N/A**EXTINGUISHING MEDIA:** Water spray, Foam**FIRE AND EXPLOSION HAZARD:****FIRE FIGHTING INSTRUCTIONS:** Evacuate area and fight fire upwind from a safe distance to avoid possible hazardous fumes and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff. Minimize use of water to prevent environmental contamination**FIRE FIGHTING EQUIPMENT:** Self-contained breathing apparatus with full facepiece and protective clothing.**SECTION 6 - ACCIDENTAL RELEASE MEASURES****IN CASE OF SPILLS OR LEAKS:** Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.**SMALL SPILL:** Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.**LARGE SPILL:** Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal.

Minimize use of water to prevent environmental contamination

**SECTION 7 - HANDLING AND STORAGE**

KEEP OUT OF REACH OF CHILDREN!

**HANDLING:** Use only in a well-ventilated area. Do not reuse this container. Wear proper safety equipment.**STORAGE:** Keep container closed when not in use. Keep away from food, feed and drinking water. Store away from heat (> 100 F) and keep from freezing (< 35 F).

Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

**SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION****EXPOSURE LIMITS (8 hour TWA, ppm):**

COMPONENT	OSHA PEL	ACIGH TLV
Dicamba DMA Salt	Not established	Not established
2,4-D DMA Salt	10 (as acid)	10 (as acid)

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Local mechanical exhaust ventilation may be required. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT:**

**EYE PROTECTION** - Safety goggles or full face respirator if vapors cause eye discomfort.

**CLOTHING** – long-sleeved shirt and long pants, Shoes plus socks. Mixers and loaders who do not use a mechanical system to transfer the contents of this container must wear coveralls or a chemical-resistant apron.

**GLOVES** – Chemical resistant gloves made of any waterproof material.

**RESPIRATOR** - When handling in enclosed areas where exposure limits may be exceeded, use a respirator with either an organic vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G)

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

**USER SAFETY RECOMMENDATIONS:** 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 PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Liquid
<b>Odor:</b>	No data
<b>pH:</b>	8.6 – 9.6
<b>Melting Point:</b>	Not applicable
<b>Boiling Point:</b>	No data
<b>Flash Point:</b>	Will not flash
<b>Evaporation Rate:</b>	No data
<b>Flammability:</b>	Not flammable
<b>Flammability Limits:</b>	Not applicable
<b>Vapor Pressure:</b>	1.86 x 10 <sup>-2</sup> mPa (25°C) (2,4-D acid) 1.67 mPa (25°C) (Dicamba acid)
<b>Vapor Density:</b>	Not applicable
<b>Density:</b>	1.15 – 1.19 g/ml (9.6 – 9.9 lb/gl)*
<b>Solubility:</b>	Emulsifies
<b>Partition Coefficient:</b>	log Pow = 2.58 – 2.83 (pH 1), 0.04 – 0.33 (pH 5), -0.75 (pH 7) (2,4-D Acid) log Pow = -0.55 (pH 5.0), -1.88 (pH 6.8), -1.9 (pH 8.9) (Dicamba acid)
<b>Auto-Ignition Temperature:</b>	No data
<b>Decomposition Temperature:</b>	No data
<b>Viscosity:</b>	11.2 cSt (25°C)

\*Listed density is an approximate value and does not necessarily represent that of a specific batch.

**SECTION 10 - STABILITY AND REACTIVITY**

**PRODUCT REACTIVITY:** None known

**CHEMICAL STABILITY:** Stable under normal conditions.

**HAZARDOUS REACTION/POLYMERIZATION:** Will not occur

**CONDITIONS TO AVOID:** Avoid excessive heat.

**INCOMPATIBLE MATERIALS:** Oxidizing agents and acids.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition may release toxic gases such as HCl

**SECTION 11 - TOXICOLOGICAL INFORMATION****ACUTE TOXICITY:**

Oral LD <sub>50</sub> (rat)	1,800 mg/kg male; 1,180 mg/kg female
Dermal LD <sub>50</sub> (rat)	>2,000 mg/kg
Inhalation LC <sub>50</sub> (rat)	>2.07 mg/L
Eye Irritation (rabbit)	Severely irritating, corrosive
Skin Irritation (rabbit)	Slightly irritating
Sensitization (guinea pig)	Non-sensitizer

**CARCINOGEN STATUS:**

OSHA	- Not listed
NTP	- Not listed
IARC (2,4-D)	- 2B (limited evidence if carcinogenicity in humans)

**TERATOGENICITY:** Evidence of birth defects and reproductive effects only at maternally toxic doses.

**MUTAGENICITY:** Not known to be mutagenic

**SECTION 12 - ECOLOGICAL INFORMATION**

**ENVIRONMENTAL SUMMARY:** This pesticide may be toxic to fish and aquatic invertebrates. Do not apply directly to water, or 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. Apply this product only as directed on label.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Refer to container label for complete Environmental Precautions.

**FATE:** 2,4-D DMA salt rapidly disassociates to the parent acid in the environment. Typical half-life of the 2,4-D acid is from a few days to a few weeks depending on soil type and weather conditions.

Dicamba DMA salt rapidly disassociates to the parent acid in the environment. Dicamba acid is highly mobile in soil and moderately persistent with a soil half-life of 30-60 days depending on soil type and weather conditions.

**FISH TOXICITY:** (2,4-D acid)  
 Bluegill – 524 mg/l (96-hr LC50)  
 Rainbow trout – 250 mg/l (96-hr LC50)  
**AVIAN TOXICITY:** (2,4-D acid)  
 Quail – 500 mg/Kg (Oral LD50)  
 Mallard Duck - > 5,500 ppm (8-day Dietary LC50)

**FISH TOXICITY:** (dicamba acid)  
 96 hour LC<sub>50</sub>, Rainbow trout - 135 mg/L  
 96 hour LC<sub>50</sub>, Bluegill - 135 mg/L  
**AVIAN TOXICITY:** (dicamba acid)  
 Oral LD<sub>50</sub>, Bobwhite quail - unknown  
 Oral LD<sub>50</sub>, Mallard duck – 2,000 mg/Kg

### **SECTION 13 - DISPOSAL CONSIDERATIONS**

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

**WASTE:** Pesticide wastes are toxic. Dispose of in accordance with applicable Federal, state and local laws and regulations at an approved facility.

**CONTAINER:** Non-refillable containers: Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Offer for recycling if available 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.  
Refillable containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. If the container cannot be refilled, offer for recycling if available 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.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the re-filler.

Refer to the container label to determine if it is refillable and for complete cleaning and disposal instructions.

### **SECTION 14 - TRANSPORT INFORMATION**

**SHIPPING DESCRIPTION:**

(Ground transport)

Containers < 30 gallons -

Not regulated by DOT

Containers ≥ 30 gallons -

UN3082, Environmentally Hazardous Substances, Liquid, N.O.S., 9, PG III, RQ (2,4-D salt)

**TRANSPORT HAZARD CLASS:**

Class 9

**UN NUMBER:**

UN3082

**DOT PACKING GROUP:**

PG III

### **SECTION 15 - REGULATORY INFORMATION**

**CERCLA REPORTABLE QUANTITY:**

Dicamba 1,000 lbs. (approximately 1,000 gallons of product)  
 2,4-D acid 100 lbs. (approximately 30 gallons of product)

**SARA TITLE III STATUS:**

311/312 Hazard Categories –  
 313 Toxic Chemicals –

Immediate health hazard  
 Dicamba, 2,4-D acid

**CALIFORNIA PROP 65:**

Not listed

**TSCA:**

This product is exempted from TSCA because it is solely for FIFRA regulated use.

**SECTION 16 - OTHER INFORMATION**

HMIS HAZARD RATINGS	HEALTH	3
	FLAMMABILITY	1
	PHYSICAL HAZARD	0
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

**DISCLAIMER:** The information presented herein is based on available data from reliable sources and is correct to the best of Albaugh's knowledge. Albaugh makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS 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-approved label.

**REVISED DATE:** May, 2017

**REFERENCE:** Revised Section 11 for IARC carcinogenicity classification