

# SAFETY DATA SHEET

## 2,4-D / AMINE 4



### SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: 2,4-D / AMINE 4  
EPA Registration No.: 33270-21  
Product Type: Herbicide  
Active Ingredient: 2,4-D Dimethylamine Salt  
Manufacturer/Registrant: United Suppliers, Inc.  
30473 260<sup>th</sup> St.  
Eldora, IA 50627

For Medical Emergencies: Contact the National Pesticide Information Center 1-800-858-7378

For Chemical Emergency: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300

### SECTION 2. HAZARDS IDENTIFICATION

THE FOLLOWING HAZARDS ARE IDENTIFIED ACCORDING TO OSHA HCS CLASSIFICATION (29 CFR 1910.1200).

#### Hazard Classifications:

Eye Damage/Irritation: Category: 1  
Flammable Liquid: Category 4

Signal Word: DANGER

#### Pictograms:



#### Hazard Statements:

- Causes serious eye damage
- Combustible liquid
- Very toxic to aquatic life with long lasting effects

#### Precautionary Statements:

- Wear eye and face protection. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or a doctor.
- Keep away from flames and hot surface. No smoking. See Section 5 for fire-fighting measures. Store in well-ventilated place. Keep cool.

Contact Chemtrec for emergency medical treatment at 1- 800-424-9300.

Physical or Chemical Hazards: Combustible. Do not use or store near heat or open flame.

Storage and Disposal: See Section 7 and 13.

Other Hazards: See Section 11 and 12.

### SECTION 3. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Ingredients:	CAS No.	Percentage (%) by Weight:
2,4-D Dimethylamine salt	2008-39-1	46.3
Ethylenediamine tetraacetic acid	60-00-4	3
Dimethylamine	124-40-3	9 -10

## SECTION 4. FIRST AID MEASURES

- If in Eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- If Swallowed:** Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. 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.
- 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.

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

Have the product container or label with you when calling a poison control center or doctor, or when going for treatment. For information on this product, contact the National Pesticide Information Center, 1-800-858-7378, Monday-Friday, 7:30 AM- 3:30 PM PST. You may also contact the National Control Center, 1-800-222-1122, day or night, for emergency medical treatment information.

## SECTION 5. FIRE FIGHTING MEASURES

**Flash Point:** 190°F (87.7°C)

**Flammable Limits (LFL & UFL):** Not established

**Extinguishing Media:** Use dry foam, dry chemical, carbon dioxide, water fog.

**Unusual Fire and Explosion Hazards:** 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: nitrogen oxides, hydrogen chloride, carbon monoxide, carbon dioxide. Combustion products may include trace amounts of ammonia.

**Hazardous Decomposition Products:** Thermal decomposition may product oxides of carbon, nitrogen and hydrogen chloride.

**Special Fire Fighting procedures:** Evacuate the area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Explosive vapor could form from ruptured containers. 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.

**Fire Fighting Equipment:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. 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.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Steps to be Taken if Material is Released or Spilled:** In case of leak or spill, contain material if possible and dispose as waste. Evacuate area. Do not contaminate any body of water. Pick up spilled liquid with absorbent material (clay, dirt or sand) and sweep up for disposal. Place it and damaged unusable containers in appropriate containers for proper waste treatment. Check local, state and federal regulations for proper disposal. **NOTE:** Prevent spilled material from flowing onto adjacent land, or into municipal sewers and open bodies of water. Always wear proper protective equipment when working with the product.

## SECTION 7. HANDLING AND STORAGE

**HANDLING:** Wash hands after handling, and 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.

**STORAGE:** Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed

to at least 40°F and mixed thoroughly before using. Store in original container with lid tightly closed, away from children and animals. Keep away from water, foodstuffs, feed or seed.

## 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.

**General 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. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

**Skin/Hand Protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: 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.

**Eye Protection:** Use chemical goggles. Eye wash fountain should be located in immediate work area.

**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, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

**Personal Protective Equipment (PPE):** Follow manufacturer's instructions for cleaning/maintaining PPE. If not such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### User Safety Recommendations:

Users should:

- Wash hands thoroughly after handling and 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.
- 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.

**Engineering Controls:** Refer to product label. Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Exposure Limits:

Chemical Name	CAS NO.	ACGIH/TLV	OSHA/PEL	NIOSH/REL	US WEEL
2,4-D Dimethylamine salt *	2008-39-1	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> (TWA)	10 mg/m <sup>3</sup> (TWA) 100 mg/m <sup>3</sup> (IDLH)	
Dimethylamine	124-40-3	5ppm (TWA) 15ppm (STEL)	10ppm 18mg/m <sup>3</sup> (TWA)	NA	

\*Exposure limits based on 2,4-D acid

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Brown liquid

**Odor:** Musty

**Odor Threshold:** Not available

**pH:** 9.0 – 9.5

**Flash Point:** 190°F (87.7°C)

**Flammability:** Not available

Density: 9.8 lbs/gal  
Water Solubility: Not available  
Viscosity: Not available  
Flammability (Solid, Gas): Not available  
Upper/Lower Flammability/Explosive Limits: Not available  
Auto-ignition Temperature: Not available  
Explodability: Not available  
Solubility: Not available  
Partition Coefficient (n-Octanol/Water): Not available  
Vapor Pressure: Not available  
Vapor Density: Not available  
Freezing point: Not available  
Boiling Point: Not available  
Evaporation Rate: Not available  
Decomposition Temperature: Not available

## SECTION 10. STABILITY AND REACTIVITY STABILITY:

**Stability:** Stable under normal use and storage conditions. May decompose if heated.  
**Conditions and Materials to Avoid:** Avoid elevated temperatures as the active ingredient will decompose. .  
**Incompatibility:** Avoid contact with oxidizers and acids.  
**Hazardous Polymerization:** Will not occur.  
**Hazardous Decomposition Products:** Thermal decomposition may product oxides of carbon, nitrogen and hydrogen chloride.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies (End-Use Product)

Acute oral toxicity:	LD <sub>50</sub> (rat)	3,129 mg/kg (female rat)
Acute Dermal toxicity:	LD <sub>50</sub> (rabbit):	> 5,000 mg/kg (combined male & female rat)
Acute inhalation toxicity:	LC <sub>50</sub> (rat):	5.34 mg/L (mist, 4-hr)

Eye irritation: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.  
Skin irritation: Prolonged contact may cause slight skin irritation with local redness. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. May cause more severe response on covered skin (under clothing, gloves).  
Skin Sensitization: Not a skin contact sensitizer

### Toxicological Information (Based on 2,4-Dichlorophenoxyacetic acid):

**Chronic/Subchronic Toxicity:** Repeated absorption of relatively large amounts of 2,4-D presents a risk to the liver and kidneys.

**Reproductive/Developmental Effects:** In a 2-generation reproduction study in rats, effects observed in offspring exposed to 2,4-D included reductions in pup body weight gains and a reduction in pup body weights at birth and during lactation. These effects were observed in conjunction with maternal toxicity. In a developmental toxicity study in rats treated with 2,4-D, developmental effects were observed in conjunction with maternal toxicity. In a developmental toxicity study in rabbits, 2,4-D did not produce any developmental effects.

**Mutagenicity:** In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were inconclusive

**Carcinogenicity:** EPA's Cancer Peer Review Committee has classified 2,4-D as a Group D chemical : not classifiable as to human carcinogenicity, based on the results of carcinogenicity studies in rats and mice.

### Carcinogenicity Assessment: (2,4-dichlorophenoxyacetic acid, 2-ethylhexyl ester)

ACGIH: None  
NTP : None  
IARC : 2B\*  
OSHA : None

\*Chlorophenoxy herbicide - IARC Group 2B: The chemical is possibly carcinogenic to humans.

**Specific Target Organ Toxicity (Single Exposure):** Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Toxicity (Repeated Exposure):** For the active ingredient(s): In animals, effects have been reported on the following organs: Bone marrow, adrenal gland, eye, kidney, liver, spleen, testes, and thyroid.

**Aspiration Hazard:** Based on physical properties, not likely to be an aspiration hazard.

## SECTION 12. ECOLOGICAL INFORMATION

**Environmental Hazards:** This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Draft 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. 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.

### Ecotoxicity Information:

Data based on 2,4-D Dimethylamine Salt:

Rainbow Trout LC<sub>50</sub> (96-h): 250 mg/L

Daphnia magna EC<sub>50</sub> (48-h): 184 mg/L

Green algae ErC<sub>50</sub> (5-d) growth rate inhibition : 66.5 mg/L

Bobwhite quail LC50 (14-d, dietary): > 5,000 mg/kg

Bobwhite quail LD50 (8-day, diet): 5,620 mg/kg

Honeybee contact LD50: > 100 µg/bee; oral LD50 (48-h): 100 µg/bee

Data based on Ethylenediamine tetraacetic acid:

Rainbow Trout LC<sub>50</sub> (96-h): > 100 mg/L

Daphnia magna EC<sub>50</sub> (48-h) : 113 mg/L

Green algae EC<sub>50</sub> : > 30 mg/L (NOAEC : 3.75 mg/L)

Mallard duck LD50 : > 3000 mg/kg

Honey bee LD50 (contact): > 100 µg ai/bee

**Environmental Fate:** 2, 4-D acid has low soil persistence. The half-life in soil is less than 7 days. Soil microbes are primarily responsible for its disappearance.

**Bioaccumulative Potential:** 2,4-D acid Bioconcentration potential is low (BCF less than <100 or log Pow less than 3). Potential for mobility in soil is high (Koc between 50 and 150).

## SECTION 13. DISPOSAL CONSIDERATIONS

**Pesticide Disposal:** Pesticide wastes are toxic. 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:** Refer to product label for container disposal. Dispose of product containers, waste containers, and residues according to local, state and federal health and environmental regulations.

## SECTION 14. TRANSPORT INFORMATION

### DOT:

Packaging size < 22 gallons : Not regulated

Packaging size ≥ 22 gallons: RQ, UN3082, Environmentally Hazardous Substance, Liquid, n.o.s, (2,4-D Salt), 9, III

### IMDG/IMO

UN3082, Environmentally Hazardous Substance, Liquid, n.o.s, (2,4-D Salt), 9, III, Marine Pollutant

### ICAO/IATA

UN3082, Environmentally Hazardous Substance, Liquid, n.o.s, (2,4-D Salt), 9, III

## SECTION 15. REGULATORY INFORMATION

### FIFRA 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. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Wear protective eye wear (goggles, face shield, safety glasses), long-sleeved shirt, long pants, shoes, socks, and chemical resistant gloves (such as or made out of any waterproof material, selection category A).

### SARA 311/212 Hazard Categories:

Section 311/312	Acute Health Hazard
	Chronic Health Hazard
Section 313 Chemical(s)	Dimethylamine (CAS No. 124-40-3)

### CERCLA/SARA 302 Reportable Quantity (RQ):

2,4-D acid and 2,4-D Ester : 100 lbs

Dimethylamine (CAS No. 124-40-3): 1000 lbs

2,4-Dichlorophenol (CAS No.

**RCRA Hazardous Waste 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 List:** The ingredients of this product are listed on the TSCA inventory or are exempt.

### CA Proposition 65:

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### STATE RIGHT-TO-KNOW:

Dimethylamine (CAS No. 124-40-3): PA

## SECTION 16. OTHER INFORMATION

**SDS DATE:** 12-1-2015. Supersedes versions dated 9-22-2010. Revised for OSHA 2012 HCS compliance.

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions