



Safety Data Sheet

Report Date 06-Oct-16

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1. Identification

Product Name : OPTI-AMINE (2,4-D AMINE HERBICIDE)
Synonyms : 2,4-D Amine Herbicide
Product Use : End use herbicide
Manufacturer/Supplier : Helena Chemical Company
Address : 225 Schilling Blvd. Collierville, TN 38017
General Information : 901-761-0050
Transportation Emergency Number : CHEMTREC:800-424-9300

2. Hazard Identification



Signal Word : Danger
Skin Irritation : Causes mild skin irritation.
Eye Irritation : Causes serious eye damage.
Acute Toxicity Oral : LD50 (female rat)=3,129 mg/kg
Acute Toxicity Dermal : LD50 (rat, male and female)>5,000 mg/kg
Hazard Categories : Oral/Dermal/Inhalation Toxicity-5/5/5; Eye/Skin Irritation-1/3
Hazard Statement : May be harmful if swallowed
May be harmful in contact with skin
Causes serious eye damage
Causes mild skin irritation
May be harmful if inhaled

3. Composition / Information on Ingredients

Component	CAS Number	Weight %
Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid	2008-39-1	46.7
Proprietary formulation aids	Nonhazardous	53.3

Note: Equivalent to 38.8% of 2,4-Dichlorophenoxyacetic acid or 3.8 lbs/gal.

4. First Aid Measures

Eye : Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eyes. Obtain prompt medical consultation, preferably from an ophthalmologist.

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. Wash clothing before reuse. Dispose of shoes/leather items which cannot be decontaminated.

Inhalation : Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth, use rescuer protection (pocket mask, etc.). Call a poison control center or doctor for treatment advice

Ingestion : 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. Never give anything by mouth if unconscious.



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Indication of Immediate Medical Attention and Special Treatment Needed : Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn after decontamination. There is no specific antidote. Treat symptomatically.

5. Fire Fighting Measures

Extinguishing Media : Use water fog, carbon dioxide, dry chemical or foam extinguishing agents.
Specific Hazards Arising from the Chemical : Smoke may contain the original material in addition to combustion product of varying composition which may be toxic and/or irritating. Combustion products may include: nitrogen oxides, hydrogen chloride, oxides of carbon, ammonia (trace amounts).
Special Fire Fight Proc : Wear self-contained breathing apparatus and full protective clothing.

6. Accidental Release Measures

Personal Precautions : Evacuate area. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Keep unprotected and unnecessary personnel out of spill area.
Protective Equipment : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Use air-purifying respirator with organic vapor cartridge and particulate pre-filter, if needed. Eyewash and emergency shower should be available in work area.
Emergency Procedures Methods and Materials for Containment and Cleanup : Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Contain spilled material if possible. For small spills, absorb with materials such as clay, dirt or sand. Sweep up and place in suitable, properly labeled containers for disposal. For large spills, a professional spill response contractor may be needed for assistance.

7. Handling and Storage

Precautions for Safe Handling : Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Use with adequate ventilation. Wash thoroughly after handling. Keep container closed. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld or perform similar operations on or near empty containers. Keep away from heat, sparks and flame.
Conditions for Safe Storage : Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

8. Exposure Controls / Personal Protection

TLV/PEL : Dimethylamine: PEL=18 mg/m³, TLV=5 ppm.
Appropriate Engineering Controls : Use local exhaust ventilation or other engineering controls to maintain airborne levels below exposure limit guidelines. General ventilation should be sufficient for most operations.
Personal Protective Equipment : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Respiratory protection not normally needed. Eyewash and emergency shower should be available in immediate work area.

9. Physical and Chemical Properties

Odor/Appearance : Clear brown liquid; phenolic odor.
Flash Point, °F : Non-combustible



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Boiling Point, °F : 230 Degrees F.
Melting Point(Freezing point), °C : <32 Degrees F.
Vapor Pressure, mm Hg @ 20 °C : Not established
Vapor Density : Not established
Solubility in Water : Miscible
Molecular Formula : Not applicable, formulated mixture.
Density, g/mL @ 25 °C : 1.159-1.179
Evaporation Rate(Butyl Acetate = 1) : Not established
Octanol/Water Partition Coefficient : No information found
pH : 5.5 to 7.0
Flammable Limits (approximate volume % in air) : Not established
Auto-ignition Temperature : Not applicable
Decomposition temperature : No information found

10. Stability and Reactivity

Reactivity : Not reactive
Chemical Stability : Stable
Hazardous Decomposition Products : Combustion products may include: nitrogen oxides, hydrogen chloride, oxides of carbon, ammonia (trace amounts).
Hazardous Polymerization : Will not occur
Conditions to Avoid : Avoid excessive heat sources.
Incompatible Materials : Avoid acids and oxidizing materials.

11. Toxicological Information

Acute Toxicity (Oral LD50) : 3,129 mg/kg (female rat). May be harmful if swallowed.
Acute Toxicity (Dermal LD50) : >5,000 mg/kg (male and female rat). May be harmful in contact with skin.
Acute Toxicity Inhalation LC50 : >5.34 mg/L (male and female rat). May be harmful if inhaled.
Likely Routes of Exposure : Eyes, skin, ingestion
Skin Irritation : Causes mild skin irritation.
Eye Irritation : Causes serious eye damage.
Skin Sensitization : Did not demonstrate the potential for contact allergy in mice.
Carcinogenic : Available data are inadequate to evaluate carcinogenicity.
Chronic Effects : For 2,4-D acid, excessive doses in laboratory animals, doses toxic to the parent animals caused decreased weight and survival of offspring. 2,4-D acid has been toxic to the fetus in laboratory animals but did not cause birth defects.
Other Hazards : Specific Target Organ Toxicity, Repeated Exposure: in laboratory animals, effects have been reported on the following organs: bone marrow, adrenal gland, eye, kidney, liver, spleen, testes, thyroid. Not classified for STOT, Repeated Exposure in humans.

12. Ecological Information

Ecotoxicity : 2,4-Dimethylamine Salt is highly toxic to aquatic organisms on an acute basis; LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested. Moderately toxic to birds on an acute basis.
Persistence and Degradability : For similar active ingredient (2,4-D Acid): material is readily biodegradable.
Bioaccumulative Potential : For similar active ingredient (2,4-D acid): bioconcentration potential is low.
Mobility in Soil : For similar active ingredient (2,4-D acid): potential for mobility in soil is very high.
Other Adverse Effects : No information found



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13. Disposal Considerations

Waste Disposal Method : This material must be disposed of according to Federal, State or Local procedures under the Resource Conservation and Recovery Act.

14. Transport Information

UN Proper Shipping Name : Not regulated by DOT in single packages <26 gallons.
Transport Hazard Class : None
UN Identification Number : None
Packaging Group : None
Environmental Hazards : Classified as a Marine Pollutant per IMDG.
Transport in Bulk : If shipped in single package \geq 26 gallons, ship as: RQ, UN3082, Environmentally Hazardous Substance, Liquid, n.o.s., (2,4-D Salt), 9, PG III
Special Precautions for Transportation : Use ERG # 171
Freight Classification : Pesticides, NOI, Herbicides, Other than Poison (NMFC Item 155050, Sub 11, Class 70)

15. Regulatory Information

National Fire Protection Association Rating :
Health: 3 Fire: 2 Reactivity: 1
Rating Level: (4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Minimum)

S.A.R.A Title III Hazard Classification (Yes/No) :
Immediate(Acute) Health: Y
Delayed (Chronic) Health: Y
Sudden Release of Pressure: N
Fire: Y
Reactive: N

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

EPA Registration Number : 5905-501
FIFRA Signal Word : Danger
FIFRA Label Statement : Keep out of reach of children.
FIFRA Label Statement : Corrosive. Causes irreversible eye damage.
FIFRA Label Statement : Harmful if swallowed or absorbed through skin.
FIFRA Label Statement : Do not get in eyes or on clothing.
FIFRA Label Statement : Wash thoroughly with soap and water after handling.
FIFRA Label Statement : Avoid contact with skin.
FIFRA Label Statement : Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. Other Information

Data of Preparation/Revision : 06-October-2016