



Safety Data Sheet

Report Date 05-Apr-17

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1. Identification

Product Name : UNISON NOVEL BROADLEAF HERBICIDE
Synonyms : None
Product Use : 2,4-D 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 : Slightly irritating
Eye Irritation : Severely irritating and irreversible
Acute Toxicity Oral : LD50 1,693 mg/kg (female rats); >2,000 mg/kg (male rats)
Acute Toxicity Dermal : LD50 >5,000 mg/kg (male/female rats)

Hazard Categories : Oral/Dermal/Inhalation Toxicity-4/5/4; Eye/Skin Irritation-1/3; Skin Sensitization-1A

Hazard Statement : Harmful if swallowed
May be harmful in contact with skin
Causes serious eye damage
Causes mild skin irritation
Harmful if inhaled
May cause an allergic skin reaction

3. Composition / Information on Ingredients

Component	CAS Number	Weight %
2,4-D Dichlorophenoxyacetic Acid	94-75-7	19.6
Proprietary blend of formulation aids	Proprietary	80.4

4. First Aid Measures

Eye : Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor immediately for further treatment advice.

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.

Inhalation : 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.

Ingestion : Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water. Do not induce vomiting. Do not give anything by mouth if unconscious or convulsing.



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Indication of Immediate Medical Attention and Special Treatment Needed : In the event of an adverse response, treatment should be directed toward control of the symptoms.

5. Fire Fighting Measures

Extinguishing Media : Foam, water spray, dry chemical or carbon dioxide extinguishing media.
Specific Hazards Arising from the Chemical : Under fire conditions, toxic and corrosive fumes are emitted.
Special Fire Fight Proc : Wear self-contained breathing apparatus and full protective clothing. Contain and dispose of fire control water.

6. Accidental Release Measures

Personal Precautions : Keep unprotected and unnecessary personnel out of spill area.
Protective Equipment : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Use NIOSH-approved respirator for organic vapors. Eyewash and emergency shower should be available in work area.
Emergency Procedures : Do not contaminate water supplies, lakes, streams, ponds, drains or soil with spilled product.
Methods and Materials for Containment and Cleanup : Contain spill using absorbent or impervious materials such as earth, sand or clay. Collect and place in plastic recovery drums for proper disposal.

7. Handling and Storage

Precautions for Safe Handling : Do not contaminate water, food or feed by storage, handling or disposal.
Conditions for Safe Storage : Do not store at temperatures below 0 Degrees F. If frozen, warm to 40 Degrees F. and redissolve by rolling or shaking container before use. Do not store under conditions which might adversely affect the container or its ability to function properly. This product can be stored in an unheated building. Store in a 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.

8. Exposure Controls / Personal Protection

TLV/PEL : 2,4-D: TLV=10 mg/m³; PEL=10 mg/m³
Appropriate Engineering Controls : Local exhaust (mechanical) normally sufficient.
Personal Protective Equipment : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Use NIOSH-approved respirator for organic vapors. Eyewash and emergency shower should be available in work area.

9. Physical and Chemical Properties

Odor/Appearance : Clear, pale yellow liquid with surfactant odor.
Flash Point, °F : >200 Degrees F.
Boiling Point, °F : >212 Degrees F.
Melting Point(Freezing point), °C : <32 Degrees F.
Vapor Pressure, mm Hg @ 20 °C : No information found
Vapor Density : No information found
Solubility in Water : Emulsifiable
Molecular Formula : Not applicable, formulated mixture.



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Density, g/mL @ 25 °C : 1.076-1.115
Evaporation Rate(Butyl Acetate = 1) : No information found
Octanol/Water Partition Coefficient : No information found
pH : 2.5 to 3.0 (2.5%)
Flammable Limits (approximate volume % in air) : No information found
Auto-ignition Temperature : Not determined
Decomposition temperature : No information found

10. Stability and Reactivity

Reactivity : No information found
Chemical Stability : Stable
Hazardous Decomposition Products : Hydrogen chloride and oxides of carbon under fire conditions.
Hazardous Polymerization : Will not occur
Conditions to Avoid : Extreme heat, open flames, sparks or static electricity.
Incompatible Materials : Strong oxidizing agents.

11. Toxicological Information

Acute Toxicity (Oral LD50) : 1,693 mg/kg (female rats) and >2,000 mg/kg (male rats). Harmful if swallowed.
Acute Toxicity (Dermal LD50) : >5,000 mg/kg (male and female rats). May be harmful in contact with skin.
Acute Toxicity Inhalation LC50 : 1.29 mg/L (male and female rats), 4 hour exposure to aerosol. Harmful if inhaled.
Likely Routes of Exposure : Eyes, skin, inhalation, ingestion.
Skin Irritation : Causes mild skin irritation.
Eye Irritation : Causes serious eye damage.
Skin Sensitization : Product is a contact sensitizer. May cause an allergic skin reaction.
Carcinogenic : Not currently listed by OSHA. IARC: 2,4-D is classified Group 2B, possibly carcinogenic to humans.
Chronic Effects : In animals, effects have been reported on the following organs: liver, kidney, eye, thyroid.
Other Hazards : Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer.

12. Ecological Information

Ecotoxicity : Moderately toxic to aquatic organisms on an acute basis. Moderately toxic to birds on an acute basis.
Persistence and Degradability : Readily biodegradable.
Bioaccumulative Potential : Bioconcentration potential for 2,4-D is low.
Mobility in Soil : Potential for mobility in soil is very high.
Other Adverse Effects : No information available.

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. (RCRA U240 and D016)



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14. Transport Information

UN Proper Shipping Name : Not regulated by DOT in single package sizes <57 gallons.
Transport Hazard Class : None
UN Identification Number : None
Packaging Group : None
Environmental Hazards : Not listed as Marine Pollutant per 49 CFR 172.101, Appendix B.
Transport in Bulk : If shipped in single package >= 57 gallons, ship as: RQ, UN3082, Environmentally Hazardous Substance, Liquid, n.o.s., (2,4-D Acid), 9, PG III "ERG # 171"
Special Precautions for Transportation : Reportable quantity (RQ) for 2,4-D acid = 100 lbs/57 gallons.
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: 1 Reactivity: 0
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: N
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 : 5905-542

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.

FIFRA Label Statement : Harmful if inhaled.

FIFRA Label Statement : Do not get in eyes or on clothing.

FIFRA Label Statement : Avoid breathing spray mist or vapor.

FIFRA Label Statement : Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. Other Information

Data of Preparation/Revision : 05-April-2017