

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name : 2, 4 D Sodium Salt 95% SP
Chemical Name : Sodium 2,4-dichlorophenoxyethanoate monohydrate
Type : Herbicide
Molecular formula : $C_8H_5Cl_2NaO_3.H_2O$

2. Composition/Information on ingredients

Chemical Name	CAS#	Percent or content(w/w)
2,4-D sodium salt	2702-72-9	95.00 %
Other ingredients	-	5.00 %

3. Health Hazards Identification

Emergency Overview:

- Harmful if swallowed.
- Irritating to the eyes, skin, and respiratory tract.
- Keep out of reach of children.

Overexposure by ingestion may cause gastrointestinal irritation with nausea, vomiting and diarrhea. Human fatalities have been reported from acute poisoning.

Potential Health Effects:

EYE: Causes severe eye irritation.

SKIN: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be harmful if absorbed through the skin.

INHALATION: Causes respiratory tract irritation. Can produce delayed pulmonary edema.

INGESTION: Harmful if swallowed.

CHRONIC: May cause liver and kidney damage. May cause reproductive and fetal effects. Effects may be delayed. Chronic exposure will cause neurological degradation and/or abnormalities.

Potential Physical Hazards: Can decompose at high temperatures forming irritating and toxic gases.

Environmental Hazards: Toxic to fish. Keep out of waterways. Slightly toxic to birds and wildlife. Practically non-toxic to bees.

4. First Aid Measures

IF SWALLOWED: Call a physician or Poison Control Center immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Have product or container label with you when calling a poison control center or doctor or going for treatment.

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. Call a poison control center for treatment advice.

IF INHALED: Remove person to fresh air. If person is not breathing call an emergency number for medical treatment immediately and begin artificial respiration, preferably mouth to mouth. Call a poison control center or doctor for further treatment advice.

IF ON 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 advise.

NOTES TO PHYSICIAN: This product has low oral, dermal, and inhalation toxicity. If swallowed, gastric lavage using an endotracheal tube may be preferred to vomiting. It is severely irritating to the eyes and mildly irritating to skin. Treatment is otherwise controlled by removal of exposure followed by symptomatic and supportive care.

5. Fire Fighting Measures

FIRE AND EXPLOSION HAZARD: Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion. Like all organic and most dry chemicals, airborne powder or dust in the presence of an ignition source may cause an explosion.

EXTINGUISHING MEDIA: Use dry foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material. Minimize the use of water to avoid environmental contamination. Contain all runoff.

FIRE FIGHTING INSTRUCTIONS: Evacuate the area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Dike and collect fire-extinguishing water to prevent environmental damage with excessive water runoff.

FIRE FIGHTING EQUIPMENT: Self-contained breathing apparatus with full face-piece. Full fire fighting turnout gear (Bunker gear).

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, and hydrogen chloride.

6. Accidental Release Measures

Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary personnel from entering.

SMALL SPILL: Sweep up small spills and place material in appropriate recovery drums for disposal.

LARGE SPILL: Contain large spills and recover for disposal. After removal, neutralize the spill area, tools, and equipment with a dilute alkaline solution (soda ash or lime) followed by an appropriate alcohol (methanol, ethanol or isopropanol). Wash the spill area, tools, and equipment with a strong soap and water solution. Absorb any excess liquid and add to the recovery drums of waste already collected. Dispose wastes as described in Section 13.

7. Handling and Storage

KEEP OUT OF REACH OF CHILDREN

HANDLING: Use only in a well ventilated area.

STORAGE: Keep in original containers, tightly closed, out of reach of children. Keep away from food, drink and animal feeding stuffs. Containers should be stored in a cool, dry, well-ventilated area away from flammable materials and sources of heat or flame.

8. Exposure Controls/Personal Protection

EXPOSURE LIMITS: (8 Hour TWA): 10 mg/m³ (Refer to Section 2)

ENGINEERING CONTROLS: Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Ventilate all transport vehicles prior to unloading. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

EYE PROTECTION: Safety goggles or full face shield.

CLOTHING: Wear coveralls or long-sleeved uniform, head covering, socks, and chemical resistant shoes. Remove contaminated clothing and wash before rewearing. Wash separately from other laundry.

GLOVES: Chemical resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber or Viton.

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 heavily contaminated with this products. 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

9. Physical and Chemical Properties

Color:	White
Physical State:	Solid powder
Molecular Weight:	261.0
Melting Point:	136-140°C
Bulk Density:	0.62-0.75
Vapor Pressure:	1.86×10^{-2} Pa @ 20° C
pH:	7.0-9.0

10. Stability and Reactivity

CHEMICAL STABILITY: Stable, however may decompose if heated.

CONDITIONS TO AVOID: Avoid excessive heat and fire.

INCOMPATIBILITY WITH OTHER MATERIALS: Strong oxidizing agents.

DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, and hydrogen chloride.

HAZARDOUS POLYMERIZATION: Product will not undergo polymerization.

11. Toxicological Information

ACUTE TOXICITY:

ORAL (rat):	The oral LD ₅₀ is 639 mg/kg .
DERMAL (rabbit):	The dermal LD ₅₀ is > 2,000mg/kg.
INHALATION (rat):	The inhalation LC ₅₀ (4 hrs.) is > 1.79 mg/L.
EYE IRRITATION (rabbit):	Causes severe eye irritation.
SKIN IRRITATION (rabbit):	Causes mild skin irritation.
SKIN SENSITIZATION (guinea pig):	Non-sensitizer.

12. Ecological Information

ENVIRONMENTAL SUMMARY:

Toxic to fish. Do not contaminate water by cleaning of equipment or disposal of equipment wash-waters. Slightly toxic to birds and wildlife. Practically non-toxic to bees.

ENVIRONMENTAL FATE:

2,4-D is considered to be minimally persistent in soils with a median half-life ranging from 2.9 to 5.6 days. Does not pose a threat to groundwater contamination.

13. Disposal Considerations

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

CONTAINER: Refer to product label. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Consult Federal, State, or local authorities for approved alternative procedures.

14. Transport Information

Product Name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,4-D Sodium Salt 95% SP)
UN No.	:	3077
UN Hazard Class	:	9
UN Packing Group	:	III
Marine Pollutant status	:	YES
EMS	:	F-A, S-F

15. Regulatory Information

Symbol: Xi

Risk phrases:

R22 Harmful if swallowed.

R 41 Risk of serious damage to eyes.

Safety phrases:

S1/2 Keep locked up and out of reach of children.

S36/37 Wear suitable protective clothing and gloves.

16. Other Information

The information presented is not necessarily exhaustive but is regarded as representative. These data are presented in good faith and are believed to be correct. No representation as to the completeness or accuracy of these data is made. No responsibility for damages of any nature whatsoever resulting from the use of or reliance upon this information will be accepted. In the event of any uncertainty, consult the supplier before use.

PREPARED BY: AAVPL, Safety Division