

NITRILOTRIACETIC ACID AND SALTS

NAA

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Disodium nitrilotriacetate NTA Triglycine Trisodium nitrilotriacetate	Solid White Odorless
Sinks and mixes with water	
Keep people away. Avoid contact with solid and dust. Notify local health and pollution control agencies. Protect water intakes.	
Fire	Not flammable.
Exposure	CALL FOR MEDICAL AID. DUST Irritating to eyes, nose and throat. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. SOLID Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.
Water Pollution	Dangerous to aquatic life in high concentrations. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge

2. CHEMICAL DESIGNATIONS

- 2.1 **CG Compatibility Group:** Not listed.
2.2 **Formula:** C₃H₄O₆NNa₃, C₃H₄O₆NNa₂, C₃H₄O₆N
2.3 **IMO/UN Designation:** Not listed
2.4 **DOT ID No.:** Not listed
2.5 **CAS Registry No.:** Currently not available
2.6 **NAERG Guide No.:** Not listed
2.7 **Standard Industrial Trade Classification:** 51465

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Dust mask; rubber gloves; chemical safety goggles
3.2 **Symptoms Following Exposure:** Toxicity and health hazard of these compounds are low. Contact with eyes causes irritation.
3.3 **Treatment of Exposure:** EYES: flush with plenty of water; treat as mild alkaline irritation with boric acid solution; if eyes are irritated, get medical attention. SKIN: flush with plenty of water.
3.4 **TLV-TWA:** Not listed.
3.5 **TLV-STEL:** Not listed.
3.6 **TLV-Ceiling:** Not listed.
3.7 **Toxicity by Ingestion:** Grade 2; LD₅₀ = 0.5-5 g/kg. Disodium Grade 2; LD₅₀ = 1.2 g/kg (rat). Trisodium Grade 2; LD₅₀ = 4 g/kg (rat)
3.8 **Toxicity by Inhalation:** Currently not available.
3.9 **Chronic Toxicity:** Currently not available
3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available
3.11 **Liquid or Solid Characteristics:** Currently not available
3.12 **Odor Threshold:** Currently not available
3.13 **IDLH Value:** Not listed.
3.14 **OSHA PEL-TWA:** Not listed.
3.15 **OSHA PEL-STEL:** Not listed.
3.16 **OSHA PEL-Ceiling:** Not listed.
3.17 **EPA AEGL:** Not listed

4. FIRE HAZARDS

- 4.1 **Flash Point:** Not flammable
4.2 **Flammable Limits in Air:** Not flammable
4.3 **Fire Extinguishing Agents:** Not pertinent
4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
4.5 **Special Hazards of Combustion Products:** Not pertinent
4.6 **Behavior in Fire:** Currently not available
4.7 **Auto Ignition Temperature:** Not pertinent
4.8 **Electrical Hazards:** Not pertinent
4.9 **Burning Rate:** Not pertinent
4.10 **Adiabatic Flame Temperature:** Currently not available
4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent.
4.12 **Flame Temperature:** Currently not available
4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent.
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
5.2 **Reactivity with Common Materials:** Currently not available
5.3 **Stability During Transport:** Stable
5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
5.5 **Polymerization:** Not pertinent
5.6 **Inhibitor of Polymerization:** Not pertinent

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** 340 ppm/24 hr/guppy/lethal conc./fresh water
6.2 **Waterfowl Toxicity:** Currently not available
6.3 **Biological Oxygen Demand (BOD):** 0%, 5 days
6.4 **Food Chain Concentration Potential:** None
6.5 **GESAMP Hazard Profile:** Bioaccumulation: 0
Damage to living resources: 0
Human Oral hazard: 1
Human Contact hazard: II
Reduction of amenities: XX

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial, 99.5+%; a water solution of trisodium salt containing 43% solids is also shipped.
7.2 **Storage Temperature:** Ambient
7.3 **Inert Atmosphere:** No requirement
7.4 **Venting:** Open
7.5 **IMO Pollution Category:** Currently not available
7.6 **Ship Type:** Currently not available
7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Not listed
8.2 **49 CFR Class:** Not pertinent
8.3 **49 CFR Package Group:** Not listed.
8.4 **Marine Pollutant:** No
8.5 **NFPA Hazard Classification:** Not listed
8.6 **EPA Reportable Quantity:** Not listed.
8.7 **EPA Pollution Category:** Not listed.
8.8 **RCRA Waste Number:** Not listed
8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
9.2 **Molecular Weight:** Acid 191; Disodium 253; Trisodium 275
9.3 **Boiling Point at 1 atm:** Not pertinent (decomposes)
9.4 **Freezing Point:** Not pertinent
9.5 **Critical Temperature:** Not pertinent
9.6 **Critical Pressure:** Not pertinent
9.7 **Specific Gravity:** >1 at 20°C (solid)
9.8 **Liquid Surface Tension:** Not pertinent
9.9 **Liquid Water Interfacial Tension:** Not pertinent
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
9.12 **Latent Heat of Vaporization:** Not pertinent
9.13 **Heat of Combustion:** Not pertinent
9.14 **Heat of Decomposition:** Not pertinent
9.15 **Heat of Solution:** Not pertinent
9.16 **Heat of Polymerization:** Not pertinent
9.17 **Heat of Fusion:** Currently not available
9.18 **Limiting Value:** Currently not available
9.19 **Reid Vapor Pressure:** Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
34	40.000		N		N		N
36	40.000		O		O		O
38	40.000		T		T		T
40	40.000		P		P		P
42	40.000		E		E		E
44	40.000		R		R		R
46	40.000		T		T		T
48	40.000		I		I		I
50	40.000		N		N		N
52	40.000		E		E		E
54	40.000		N		N		N
56	40.000		T		T		T
58	40.000		E		E		E
60	40.000		N		N		N
62	40.000		T		T		T
64	40.000						
66	40.000						
68	40.000						
70	40.000						
72	40.000						
74	40.000						
76	40.000						
78	40.000						
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82	40.000						
84	40.000						