

BUCKMAN LABORATORIES, INC.

MATERIAL SAFETY DATA SHEET



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Phone 1-800-BUCKMAN

Buckman Laboratories, Inc.
1256 North McLean Boulevard
Memphis, TN 38108

24 Hour Emergency Phone: (901) 767-2722

SECTION 1

OSHA HAZARD CLASSIFICATIONS

Irritating to eyes. Slightly irritating to skin. Contains possible carcinogen.

SECTION 2

HAZARDOUS COMPONENTS

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% by Weight</u>	<u>TLV</u>
Pentasodium diethylenetriaminepentaacetate	140-01-2		Not available.
Aminotris(methylenephosphonic acid)	6419-19-8		Not available.
Trisodium nitrilotriacetate	5064-31-3	<1.3	Not available.

While some substances are claimed as trade secret in accordance with the provision of OSHA 29 CFR 1910.1200(i), all known hazards are clearly communicated within this document.

SECTION 3

FIRST AID INFORMATION

- Eye
Exposure: Flush immediately with copious amounts of tap water or normal saline (minimum of 15 minutes). Take exposed individual to a health care professional, preferably an ophthalmologist, for further evaluation.
- Skin
Exposure: Wash exposed area with plenty of water. Repeat washing. Remove contaminated clothing and wash thoroughly before reuse. If irritation persists consult a health care professional.
- Inhalation: If exposure by inhalation is suspected, immediately move exposed individual to fresh air. If individual experiences nausea, headache, dizziness, has difficulty in breathing or is cyanotic, seek a health care professional immediately.
- Ingestion: DO NOT INDUCE VOMITING. Rinse with copious amounts of water or milk, first. Irrigate the esophagus and dilute stomach contents by slowly giving one (1) to two (2) glasses of water or milk. Avoid giving alcohol or alcohol related products. In cases where the individual is semi-comatose, comatose or convulsing, DO NOT GIVE FLUIDS BY MOUTH. In case of intentional ingestion of the product seek medical assistance immediately; take individual to nearest medical facility.

Note to Physician: Attending physician should treat exposed patients symptomatically.

SECTION 4**PRIMARY ROUTES OF EXPOSURE****1. Effects from Acute Exposure:**

Eye Exposure: Hazardous in case of eye contact (irritant).

Skin Exposure: Slightly hazardous in case of skin contact (irritant). Non-sensitizer to skin. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

Inhalation: May be harmful if inhaled. Do not breathe spray mists of the undiluted product. Effects will depend upon solution strength and length of time of exposure.

Ingestion: Ingestion is not expected to be a primary route of exposure.

2. Effects from Chronic Exposure:

The following data is available for pentasodium diethylenetriaminepentaacetate (DTPA) (Na₅DTPA): "A maternally non-toxic dose (400 mg/kg) of a test article with 40% Na₅DTPA, administered orally to pregnant rats, caused a significant increase in skeletal retardations in the developing fetuses. In the presence of maternal toxicity, a dose of 100 mg/kg caused a statistically significant increase in skeletal malformations, variations, and retardations in rat fetuses. These effects may be due to zinc deficiency caused by chelation of zinc by Na₅DTPA.

Chronic investigation of nitrilotriacetate (NTA) and its trisodium salt has been shown to cause kidney toxicity in animal studies.

SECTION 5**Toxicological Information****Acute Effects:**

Eyes: Minimally irritating. Irritation cleared within 48 hours.

Dermal Irritation: Slightly irritating. Dermal irritation cleared with 48 hours.

Irritant / Sensitization Effects:

Hazardous in case of eye contact (irritant).

Slightly hazardous in case of skin contact (irritant). Non-sensitizer to skin. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

May be harmful if inhaled. Do not breathe spray mists of the undiluted product. Effects will depend upon solution strength and length of time of exposure.

Carcinogenic Potential:

Trisodium nitrilotriacetate and Nitrilotriacetic acid have an IARC rating of 2B (The agent is possibly carcinogenic to humans. The exposure circumstance entails exposures that are possibly carcinogenic to humans.). Nitrilotriacetic acid has NTP rating of 2 (Substances or groups of substances, and medical treatments which may reasonably be anticipated to be carcinogens.).

Target Organs Effects:

May cause damage to the following organs: kidneys, bladder, upper respiratory tract, skin, eyes.

Other Health Effects:

None known.

SECTION 6***Environmental Toxicological Information***

No information available.

SECTION 7***Physical and Chemical Properties***

Appearance **Yellow liquid**
Odor **Slight.**
Density **1.24 to 1.28 g/cm³ (25°C / 77°F)**
Flash Point **Closed cup: >100°C (212°F). (Expected.)**
Melting/Freezing Point **-14.4°C (6.1°F)**
Boiling Point **Not available.**
Solubility **Soluble in cold water. Soluble in hot water.**
pH (Neat) **7 to 8.5 [Basic.]**
pH (100 ppm in water) **Not available.**
Vapor Pressure..... **Not available.**
o/w Partition Coefficient **Not available.**
Oxidizing/Reducing Properties . **Not available.**
Viscosity **Dynamic: 23 cP**

Additional pH Information **Not available.**

NOTE: The physical data presented above are typical values and should not be construed as specifications.

SECTION 8***Fire and Explosion Information***

Flammable Limits **Not available.**
Extinguishing Media **Water fog, carbon dioxide, foam, dry chemical.**
Special Firefighting Procedures **Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.**

SECTION 9***Reactivity Information***

Stability **Stable under normal conditions of use and storage.**
Incompatibility **strong bases, strong oxidizers**
Hazardous Decomposition Products **Oxides of carbon, nitrogen, and phosphorus.**

SECTION 10***Handling Precautions***

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations below established levels or to control vapor and/or mist level. When established limits are exceeded or misting may occur in the work area, a NIOSH/MSHA approved respirator may be required. Use a respirator approved for the material and level of exposure. A comprehensive respiratory protection program is needed when respirators must be used. Use chemical resistant gloves, indirect ventilation goggles, body-protective clothing, and chemical resistant safety shoes. Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product.

The handling precautions for this product are based on the characteristics of the neat product unless otherwise specified.

SECTION 11***Satisfactory Materials of Construction***

304 Stainless steel
316 Stainless steel
ABS (Plastic)
Teflon
Polyethylene - crosslink
Polyethylene - high density
Polyethylene - low density
PVC - flexible
PVC - rigid
Tygon F-4040
Tygon R3603
EPDM rubber
Neoprene
Buna-N rubber
Silicone rubber
Viton
Butyl rubber
6/6 Nylon
FRP
Dow Sillastic Tube
Polyurethane Tubing
Rehau Tubing
Latex Tube

NOTE: With respect to all other materials not listed above, user should be aware that use of such materials with this product may be hazardous and result in damages to such materials and other property and personal injuries. No data concerning such materials not listed above should be implied by the user.

SECTION 12***Spill, Leak, and Disposal Procedures*****SPILL AND LEAK RESPONSE GUIDELINES:**

Important: Before responding to a spill or leak of this product, review each section of this MSDS. Follow the recommendations given in the Handling Precautions sections. Check the Fire and Explosion Data section to determine if the use of non-sparking tools is merited. Insure that spilled or leaked product does not come into contact with materials listed as incompatible. If irritating fumes are present, consider evacuation of enclosed areas.

Emergency Response Assistance: Emergency technical assistance is available at any time from Buckman Laboratories, Inc., by calling (901) 767-2722.

Initially minimize area affected by the spill or leak. Block any potential routes to water systems (e.g., sewers, streams, lakes, etc.). Based on the product's toxicological and chemical properties, and on the size and location of the spill or leak, assess the impact on contaminated environments (e.g. water systems, ground, air equipment, etc.). There are no methods available to completely eliminate any toxicity this product may have on aquatic environments. Minimize adverse effects on these environments. Buckman Laboratories, Inc. can be contacted for technical assistance. Determine if federal, state, and/or local release notification is required (see Regulatory Classifications section of this MSDS). Recover as much of the pure product as possible into appropriate containers. Later, determine if this recovered product can be used for its intended purpose. Address clean-up of contaminated environments. Spill or leak residuals may have to be collected and disposed of. Clay, soil, or commercially available absorbents may be used to recover any material that can not readily be recovered as pure product. Flushing residual material to an industrial sewer, if present at the site of a spill or leak incident, may be acceptable if authorized approval is obtained. If product and/or spill/leak residuals are flushed to an industrial sewer, insure that they do not come into contact with incompatible materials. Contact the person(s) responsible for the operation of your facility's industrial sewer system prior to intentionally flushing or pumping spills or leaks of this product to the industrial sewer.

DISPOSAL GUIDELINES

Note: Follow federal, state, and local regulations governing the disposal of waste materials.

Neat Product: Contact your Buckman representative or Buckman Laboratories, Inc., at (901) 278-0330.

Contaminated Materials: Determine if waste containing this product can be handled by available industrial effluent system or other on-site waste management unit. If off-site management is required, contact a company experienced in industrial waste management. This product is not specifically listed in 40 CFR 261 as a Resource Conservation and Recovery Act (RCRA) hazardous waste. However, spill or leak residuals may meet the criteria of a characteristic hazardous waste under this Act. Check the characteristics of the material to be disposed of and/or the physical and reactivity data given in this MSDS for the neat product.

Container Disposal: Empty containers, as defined by appropriate sections of the RCRA, are not RCRA hazardous wastes. However, insure proper management of any residuals remaining in container.

SECTION 13	<i>Transportation and Shipping Information</i>
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DOT Shipping Information:

NON-BULK: UN1760 , CORROSIVE LIQUID, N.O.S., (Pentasodium diethylenetriaminepentaacetate, Aminotris(methylene phosphonic acid)) , Class 8, P.G. III , (ERG Guide 154) ***** **BULK:** Not regulated per 49 CFR 173.154(d) when packaged in non-aluminum, non-steel containers.

IMO/IMDG Shipping Information:

UN1760 , CORROSIVE LIQUID, N.O.S., (Pentasodium diethylenetriaminepentaacetate, Aminotris (methylene phosphonic acid)) , Class 8, P.G. III , (EmS No. F-A, S-B , ERG Guide 154, HazMat Code 4936505)

IATA Shipping Information:

UN1760 , CORROSIVE LIQUID, N.O.S., (Pentasodium diethylenetriaminepentaacetate, Aminotris (methylene phosphonic acid)) , Class 8, P.G. III , (ERG Guide 154, ERG Code 8L)

DOT "RQ": NONE (Material does not meet concentration requirements for hazardous substances as defined in 49 CFR 171.8)

Unless otherwise stated, the shipping information provided above applies only to non-bulk containers of this product. Proper shipping name and general shipping information may vary depending on packaging and mode of shipment. All products shipped from Buckman locations have been properly packaged and labeled according to appropriate hazardous materials shipping regulations. If any alteration of packaging, product, or mode of transportation is further intended, different shipping information, including but not limited to proper shipping name, RQ designation, and labeling may apply. For further information pertaining to the shipping requirements for this product, contact Buckman's Transportation Department or DOT Coordinator.

SECTION 14	<i>Regulatory Information</i>
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The following Regulations are known to apply to the use and disposal of this product. Additional Federal, State and Local regulations may also be applicable.

SARA (Superfund Amendments and Reauthorization Act)

SARA 302 Extremely Hazardous Substances List ...

No components of this product are listed.

SARA 312 Hazard Category ...

Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313 Toxic Chemicals List ...

No components of this product are present above the *de minimus* levels.

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act)

No components of this product are present above the *de minimus* levels.

RCRA (Resource Conversation and Recovery Act) Listed Hazardous Waste

No components of this product are listed.

CWA (Clean Water Act) Listed Substances

No components of this product are listed.

FDA (Food and Drug Administration)

This product is **approved** under the following FDA (21 CFR) sections : 176.170.

Bundesinstitut für Risikobewertung (BfR) (The Federal Institute for Risk Assessment)

Not available.

TSCA (Toxic Substances Control Act) Applicability

All components are listed on the TSCA Inventory.

FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act)

This product is not a registered pesticide.

HMIS/NPCA Rating ... Health **1** Flammability **1** Reactivity **1**

NFPA Ratings Health **1** Flammability **1** Reactivity **0**

State Regulations

Various State Right To Know Acts ...

Non-proprietary hazardous chemicals are listed in Section 2 of this MSDS. Should you require further information on specific proprietary or inert ingredients please contact Buckman Laboratories' Regulatory Affairs Department.

The information on this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties, and handling of this product under the recommended conditions of use. Any use of this product or method of application which is not described in the Data Sheet is the responsibility of the user. This Material Data Safety Sheet was prepared to comply with the OSHA Hazard Communication regulations. While some components are claimed Trade Secret under OSHA Hazard Communication regulations, all known OSHA hazards associated with the Trade Secret component(s), if contained in this product, are fully disclosed.

Buckman Laboratories, Inc. warrants that this product conforms to its chemical description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. Buyer assumes the risk of any use contrary to such directions.

Seller makes no other warranty or representation of any kind, express or implied, concerning the product, including **NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE**. No such warranties shall be implied by law and no agent of seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty.

The exclusive remedy against seller shall be in a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of warranty or tort.

Any controversy or claim arising out or relating to this contract, or breach thereof, shall be settle by arbitration in accordance with the commercial arbitration rules of the American Arbitration Association, and judgement upon the rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.