

# MATERIAL SAFETY DATA SHEET

TES 277 URINAL LINE CLEANER

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product Name:** TES 277 URINAL LINE CLEANER  
**Synonyms:** Orthophosphoric Acid; White Phosphoric Acid  
**CAS Number:** 7664-38-2  
**Chemical Family:** Mineral Acid  
**Formula:** 50% H<sub>3</sub>P<sub>04</sub>

**TRINITY ECO SOLUTIONS**  
N 9385 LULU LAKE RD.  
EAST TROY, WI 53120

**EMERGENCY RESPONSE NUMBERS:**  
24 Hour Emergency #: (414) 277-1311  
CHEMTREC Emergency #: (800) 424-9300

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## 2. HAZARDS IDENTIFICATION

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**EMERGENCY OVERVIEW:** DANGER! CORROSIVE . Causes severe burns to eyes, skin, and respiratory tract. Harmful or fatal if swallowed. Corrosive to mild steel.

**Physical State:** Syrupy liquid.  
**Color;** Clear. Colorless.  
**Odor:** No odor.

### POTENTIAL HEALTH EFFECTS

**Routes Of Exposure:** Eyes. Skin. Inhalation. Ingestion.

**Target Organs:** Eyes. Skin. Respiratory System.

**Eye Contact:** CORROSIVE-Causes severe irritation and burns. May cause: permanent eye damage. blindness.

**Skin Contact:** CORROSIVE-Causes severe irritation and burns. Contact may cause: permanent skin damage. Contact may not produce an immediate burning sensation, delaying awareness that contact has occurred.

**Skin Absorption:** No more than slightly toxic based on toxicity studies.

**Inhalation:** May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate: respiratory tract. Serious cases of inhalation may cause: respiratory problems and late pulmonary edema.

**Ingestion:** CORROSIVE-Causes severe irritation and burns. May irritate or burn: mouth. throat. stomach. May cause: nausea. vomiting. abdominal discomfort. abdominal pain. burning sensation. Severe exposures may cause: shock. circulatory collapse. death.

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**Medical Conditions Aggravated By Exposure To Product:** Eye disorders. Skin disorders. Impaired respiratory function.

**Other:** None known.

**Cancer Information:** This product does not contain greater than 0.1% of the known or potential carcinogens listed in NTP, IARC, or OSHA.

**Potential Environmental Effects:** See Section 12.

### 3.COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS Number</u>	<u>OSHA Hazard</u>	<u>% by Wt.</u>
Phosphoric Acid	7664-38-2	YES	- 75 %
Water	7732-18-5	NO	- 25 %

### 4. FIRST-AID MEASURES

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lens if easy to do.

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Do not apply oils or ointments unless ordered by the physician.

**Inhalation:** Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

**Ingestion:** If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Not flammable or combustible. For fires in area use appropriate media. For example: Water spray. Dry chemical. Carbon dioxide. Foam.

**Fire Fighting Methods:** Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Product generates heat upon addition of water, with possible spattering. Run-off from fire control may cause pollution.

**Fire And Explosion Hazards:** This product may react with certain metals to produce flammable Hydrogen Gas.

**Hazardous Combustion Products:** Thermal decomposition may release: Phosphorous oxides. Phosphine. Toxic vapors.

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## 6. ACCIDENTAL RELEASE MEASURES

**Spill Clean-Up Procedures:** CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Contain spill, place into drums for proper disposal. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal. Flush remaining area with water and neutralize with Soda Ash, Lime or Limestone and dispose of properly. Adequate ventilation is required if soda ash is used, because of the consequent release of carbon dioxide gas. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. CORROSIVE MATERIAL.

**Storage:** CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Do not freeze. May react with certain metals to produce flammable hydrogen gas.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines:

<u>Component</u>	<u>OSHA PEL</u>	<u>OSHA STELJC</u>	<u>ACGIH TWA</u>	<u>ACGIH STEL/C</u>
Phosphoric Acid	1 mg/m <sup>3</sup>	Not Estab.	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>
	1 mg/m <sup>3</sup> +	3 mg/m <sup>3</sup> +		
Water	Not Estab.	Not Estab.	Not Estab.	Not Estab.

**Note:** + Vacated 1989 OSHA PEL(s).

**Engineering Controls:** General room ventilation and local exhaust are required. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

**Eye/Face Protection:** Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.

**Skin Protection:** Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Acid-proof. Gauntlet-type. Rubber. Neoprene. Nitrile.

**Respiratory Protection:** Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved respirator. Acid gas cartridge. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

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**Other Protective Equipment:** Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Protective clothing.

**General Hygiene Conditions:** Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Physical State:** Syrupy liquid.

**Color:** Clear. Colorless.

**Odor:** No odor.

**Boiling Point (deg. F):** 309.2

**Freezing Point (deg. F):** -70

**Melting Point (deg. F):** N.D.

**Vapor Pressure (mm Hg):** 0.0285 @ 20C (100% acid)

**Vapor Density (air=1):** N.A.

**Solubility in Water:** Complete

**pH:** <2 (1% solution @ 25C)

**Specific Gravity:** 1.692 @ 25C

**% Volatile (wt%):** N.A.

**Evaporation Rate (nBuAc = 1):** N.A.

**VOE (wt%):** 0

**VOE (lbs/gal):** 0

**Viscosity:** 23 centistrokes @ 25C

**Flash Point:** N.A.

**Flash Point Method:** N.A.

**Lower Explosion Limit:** N.A.

**Upper Explosion Limit:** N.A.

**Autoignition Temperature:** No Data

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## 10. STABILITY AND REACTIVITY

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**Stability:** Stable under normal conditions.

**Conditions To Avoid:** Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Avoid high temperatures.

**Incompatible Materials:** Metals. Strong oxidizing agents. Strong reducing agents. Sulfides. Sulfites. Bases. Fluorine. Sulfur trioxide. Phosphorous pentoxide. Sodium tetrahydroborate. Aldehydes. Amines. Amides. Alcohols. Azo-compounds. Carbamates. Esters. Caustics. Phenols. Cresols. Ketones. Organophosphates. Epoxides. Explosives. Combustible materials. Unsaturated halides. Organic peroxides. Mercaptans. Cyanides. Nitromethane. Glycols. Fluorides. Halogenated organics.

**Hazardous Decomposition Products:** Thermal decomposition may release: Phosphorous oxides. Phosphine. Reactions with other materials may liberate toxic and/or explosive gases.

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**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur under normal conditions. May react with certain metals to produce flammable hydrogen gas. Mixing with strong bases can cause high heat of reaction and generate steam. Reacts with chlorides + stainless steel to form explosive hydrogen gas. Phosphoric acid forms flammable gases with sulfides, mercaptans, cyanides and aldehydes. Phosphoric acid forms toxic fumes with cyanides, sulfides, fluorides, organic peroxides, and halogenated organics. Phosphoric acid mixtures with nitromethane are explosive.

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### 11. TOXICOLOGICAL INFORMATION

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**LD50 Oral:** Rat: 1530 mg/kg (Sax 9th edition)  
Rat: 4400 mg/kg Slightly toxic (75% H3P04) ICL  
**LD50 Skin:** Rabbit: 2740 mg/kg (SAX 9th edition)  
Rabbit: >3160 mg/kg Slightly toxic (75% H3P04) ICL  
**LC50 Inhalation:** No Data

Eye Irritation - rabbit (24-hr. exp): corrosive  
Skin Irritation - rabbit (24-hr. exp): corrosive  
DOT Skin Corrosion - rabbit (4-hr. exp): non-corrosive

The results of single exposure tests indicate that these concentrations of Phosphoric Acid are slightly toxic orally and no more than slightly toxic after skin application. Following a 24-hr exposure, irreversible eye and skin damage occurred at all tested concentrations of Phosphoric Acid.

#### PHOSPHORIC ACID:

Phosphoric acid has a low vapor pressure at room temperature and is not expected to present a significant inhalation hazard under ambient conditions. Phosphoric acid can, however, be irritating to the respiratory tract if inhaled as a mist or if the material is vaporized.

Phosphoric acid has produced no genetic changes in standard tests using bacterial cells.

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### 12. ECOLOGICAL INFORMATION

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**Ecotoxicological Information:** Extensive data, call for information.

**Chemical Fate Information:** No specific biodegradation test data was located in a search of the available scientific literature. It was reported in the literature that while acidity of this material may be reduced readily in natural waters, the phosphate may persist indefinitely. Phosphates are plant nutrients and may contribute to the growth of phytoplankton in water.

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### 13. DISPOSAL CONSIDERATIONS

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**Hazardous Waste Number:** 0002

**Disposal Method:** Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

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### 14. TRANSPORTATION INFORMATION

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DOT (Department of Transportation):  
Proper Shipping Name: PHOSPHORIC ACID SOLUTION  
Hazard Class: 8  
Identification Number: UN1805  
Packing Group: III  
Label Required: CORROSIVE  
Reportable Quantity (RQ): 5000# (Phosphoric Acid)

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### 15. REGULATORY INFORMATION

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#### U.S. FEDERAL REGULATIONS

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

#### SARA Title III Section 311/312 Category:

Immediate (Acute) Health Hazard: Y  
Delayed (Chronic) Health Hazard: N  
Fire Hazard: N  
Sudden Release Of Pressure Hazard: N  
Reactive Hazard: N

#### SARA Section 302/304/313/HAP:

<u>Component</u>	<u>CERCLA RQ</u>	<u>SARA RQ</u>	<u>SARA TPQ</u>	<u>SARA 313</u>	<u>U.S. HAP</u>
Phosphoric Acid	5000	N.A.	N.A.	NO	NO
Water	N.A.	N.A.	N.A.	NO	NO

NSF/ANSI Standard 60 Maximum Use Level: 14 mg/L

#### U.S. STATE REGULATIONS

California - The following components are listed under Proposition 65:  
This product may contain a detectable level of (a) chemical(s) subject to California's Proposition 65.

Wisconsin - The following components are listed as a Wisconsin HAP:  
Phosphoric acid.

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### 16. ADDITIONAL INFORMATION

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#### Hydrite Rating System

Health: 3  
Flammability: 0  
Reactivity: 0

\* = Chronic Health Hazard

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### NFPA Rating System

Health: 3  
Flammability: 0  
Reactivity: 0  
Special Hazard: None

### MSDS Abbreviations

N.A. = Not Applicable  
N.D. = Not Determined  
HAP = Hazardous Air Pollutant  
VOE = Volatile Organic Compound  
C = Ceiling Limit  
N.E./Not Estab. = Not Established

MSDS Prepared by: NAO

Reason for Revision: Change(s) made in Section 15.

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