

## MATERIAL SAFETY DATA SHEET

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## 1. PRODUCT IDENTIFICATION

CATALOG NO.: R-0803  
 PRODUCT NAME: Phosphonate Titrating Solution  
 CHEMICAL FAMILY: Inorganic salt solution

## 2. INGREDIENTS

INGREDIENT	CAS NO.	%	NATURE OF HAZARD
Thorium nitrate	13823-29-5	<1	Oxidizer, radioactive
Deionized water	7732-18-5	to 100	None

## 3. PHYSICAL/CHEMICAL CHARACTERISTICS

STATE: Liquid      APPEARANCE: Clear, colorless      ODOR: None  
 BOILING PT (F): 212      pH: 3.1      SPECIFIC GRAVITY: 1  
 VAPOR PRESSURE (mm Hg): 17      VAPOR DENSITY (AIR=1): .6  
 PERCENT VOLATILE BY VOLUME: 99      SOLUBILITY IN WATER: Soluble  
 SPECIFIC ACTIVITY: 0.000000508 uCi/g

## 4. FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT: NA      METHOD: NA  
 FLAMMABLE LIMITS: LEL: NA      UEL: NA  
 EXTINGUISHING MEDIA: NA  
 SPECIAL PROCEDURES: Wear self-contained (positive pressure if available) breathing apparatus and full-protective clothing  
 FIRE/EXPLOSION HAZARDS AND HAZARDOUS DECOMPOSITION PRODUCTS: Residue on evaporation is a strong oxidizer. May emit toxic fumes of nitrogen oxides.  
 NFPA CODE: Health: 1      Flammability: 0      Reactivity: 0      Specific: NA  
 CONDITIONS TO AVOID: Extreme heat, temperatures. Contact with reducing agents.

## 5. HEALTH HAZARD DATA

INGREDIENT: Thorium nitrate  
 TOXICITY: LD50(oral-mus): 1760 mg/kg  
 PEL: NE      TLV: NE  
 STEL: NE

ROUTE(S) OF ENTRY: Inhalation      Ingestion X      Skin X

TARGET ORGAN(S): Eyes, skin

CARCINOGENICITY: NTP No      IARC No      OSHA No

HEALTH HAZARDS AND SYMPTOMS OF EXPOSURE:

EYES: Irritant.

SKIN: Irritant.

INGESTION: Irritant. Ingestion of large amounts may be carcinogenic due to radioactivity.

INHALATION: NA

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye and skin conditions

**6. PRECAUTIONARY MEASURES**

**PROTECTIVE EQUIPMENT:** General purpose gloves, safety glasses, lab coat  
**HANDLING:** Avoid contact with eyes, skin, and clothing. Avoid breathing chemical. Wash thoroughly after handling.  
**STORAGE:** Cool, dry area. Avoid direct sunlight.

**7. EMERGENCY AND FIRST AID PROCEDURES**

**EYE AND SKIN CONTACT:** Immediately flush eyes with water for 20 minutes or until chemical is removed. Call physician. Wash skin thoroughly with soap and water.

**INGESTION:** Give large amounts of water. Call physician. Induce vomiting under direction of physician. DO NOT induce vomiting or give anything by mouth to a person who is unconscious, rapidly losing consciousness, or convulsing.

**INHALATION:** NA

**8. SPILL AND DISPOSAL PROCEDURES**

**SPILL OR RELEASE:** Absorb with vermiculite or other inert material. Containerize for later disposal.

**DISPOSAL:** To comply with all local, state, and federal regulations.

NA = Not applicable  
ND = Not determined  
NE = Not established

This Material Safety Data Sheet has been prepared in accordance with 29 CFR Part 1910.1200 and contains information believed to be accurate and complete at the date of preparation. However, no warranty is expressed or implied. Advice given under "Spill and Disposal Procedures" assumes compliance with federal, state, and local regulations regarding the disposal of hazardous waste.

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