

## Environmental Health and Safety

### GUIDELINES FOR WORK WITH PICRIC ACID (CAS# 889-1)

Picric acid (also known as 2,4,6-trinitrophenol) is a yellow crystal that is slightly soluble in water and highly sensitive to heat, shock, or friction. Safety precautions recommend storing picric acid wet. Dry picric acid is sensitive to shock and friction, so laboratories that use it store it in bottles under a layer of water, rendering it safe. Glass or plastic bottles are required, as picric acid ~~is not~~ forms metal picrate salts that are even more sensitive and hazardous than the acid itself. Because of picric acids explosive nature it is among the most hazardous substances found in the laboratory.

#### I. Potential Hazards:

Explosion Hazard: If allowed to dry, picric acid can become shock sensitive and explosive as it is a flammable solid.

- x Containers older than two years may pose significant explosion potential.
- x Picric acid is a strong irritant and allergen that causes local, as well as systemic allergic reactions.
- x Picric acid can cause skin damage and staining at the contact site as well as systemic poisoning when ingested or absorbed
- x Inhalation of high concentrations of picric acid dust can cause temporary coma followed by weakness, myalgia, anuria (absence of urine production), and polyuria (excessive urination).
- x Target organs are the blood, skin, eyes, kidneys and liver.

#### II. How to handle picric acid bottle that is undated or unsure of the date opened/received:

- x If you find an undated bottle or unsure of the date opened/received of picric acid do not touch the bottle.
- x Without touching the bottle, visually inspect to determine if there may be water present in the bottle.
- x Without touching the bottle, visually inspect to determine if there may be crystals that have formed near the cap.
- x Evacuate the room. Close and lock the door.
- x Immediately contact EHS at 33227.

#### III. Responsibilities of the Principle Investigator:

- x The Principal Investigator is responsible for training employees and students using the material on site.

IV. Work Practice Controls

- x Work with picric acid in a chemical fume hood to minimize inhalation exposure.
- x Read the Safety Data Sheet (SDS) prior to handling picric acid.
- x Date all bottle of picric acid with "DATE RECEIVED" and "DATE OPENED"
- x Call EHS at 373-2227 for immediate disposal if the received date is greater than 2 years
- x Clean bottleneck, cap, and threads with a wet cloth before sealing.
- x Do not use metal spatulas when removing or weighing material.

V.

