**Standard Operating Procedure**

|  |  |  |
| --- | --- | --- |
| **Chemical name/class:** | **Picric Acid** | **CAS #: 88-89-1** |
| **PI:** |  | **Date:** |
| **Building:** |  | **Room #:** |

 **Circumstances of Use:**

***This SOP must be customized for each lab using Picric Acid. Use this section to describe the circumstances of use, including concentration and quantity as well as identification of a designated work area.***

 **Potential Hazards:**

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

 Containers older than two years may pose significant explosion potential.

 Picric acid is a strong irritant and allergen that causes local, as well as systemic allergic reactions.

 Picric acid can cause skin damage and staining at the contact site as well as systemic poisoning when ingested or absorbed

 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).

 Target organs are the kidneys and liver.

 OSHA Permissible Exposure Limit (8 hours) : 0.1 mg/m3

 **Engineering Controls:**

Work with picric acid in a chemical fume hood.

 **Work Practice Controls:**

 All work with picric acid should be performed in a chemical fume hood to minimize inhalation exposure.

 Date all bottles of picric acid with “Date Received” and “Date Opened”.

 Check receipt date: If the date is greater than 2 years, call EH&S for immediate disposal.

 Clean bottleneck, cap and threads with a wet cloth before re-sealing.

 Do not use metal spatulas when removing or weighing material.

 **Personal protective equipment (PPE):**

 Skin protection with a lab coat or protective disposable gown can prevent the irritant and sensitizing action of picric acid. Wear eye protection and/or face shield to prevent possible eye contact.

 Work clothing should be changed daily if working with picric acid on a consistent basis.

 Wear appropriate protective gloves of compatible material(s). Butyl and Viton gloves are suggested when working with picric acid.

 **Transportation and Storage:**

 **Group I – Flammable Solid, Peroxide Former**

 Picric acid and its derivatives should be stored in small quantities in the original container in a cool, dry, well- ventilated area, away from sources of heat.

 Picric acid is considered a flammable solid and is **incompatible** with oxidizers, reducing agents, inorganic salts, metals, alkaloids and albumin.

 Improper storage of picric acid may become sensitive to shock, friction, and heat. Picric acid, if dried out to less than 10% water by volume, becomes very unstable and may pose an explosion hazard in the laboratory.

 Keep only small amounts of picric acid. **Dispose every 2 years.**

 **Waste Disposal:**

If an old or previously unaccounted bottle of picric acid is found, the following steps should be taken:

 Most importantly **DO NOT TOUCH THE CONTAINER!!** Crystals may have formed between the lid and the container. Any attempt to open the container could result in an explosion.

 Visually inspect the contents of the bottle to determine water content and check for signs of crystallization inside the bottle and around the lid.

 If crystallization is observed, immediately contact EH&S for evaluation.

Handle and store chloroform waste following the guidelines above while accumulating wastes and awaiting chemical waste pickup. Chemical waste must be disposed of following UNC Charlotte’s Laboratory Chemical Waste Management practices <https://safety.uncc.edu/laboratory-and-research-safety/hazardous-universal-waste>.

 **Exposures/Unintended contact:**

 Flush exposed eyes or skin with water for at least 15 minutes, then seek emergency medical attention.

 If ingested, have the victim rinse mouth thoroughly with water. Do not induce vomiting. Have victim drink 240 to 300 ml (8 to 10 oz.) of water to dilute material in the stomach.

The work-related injury or illness report found at:

<https://safety.uncc.edu/services/workers-compensation>

 **Spill Procedure:**

 Stop or reduce the spill if it is safe to do so.

 Contain spill with material that does not react with spilled chemical- such as pads or pillows.

 Place pads or pillows in a compatible, impervious container with water added. Thoroughly wash the spill site after material pickup is complete.

On the UNC Charlotte campus, “large” spills of volatile hazardous materials, including chloroform, must be referred

to the Campus Police by calling 911 from a campus phone or 704-687-2200 from any phone.

 **Training of personnel:**

All personnel are required to complete the UNC Charlotte EHS Laboratory Environment Training Checklist. This checklist includes an introduction to general chemical safety as well as review of the laboratory specific safety plan. Furthermore, all personnel shall read and fully adhere to this SOP when handling the chemical.

**“I have read and understand this SOP. I agree to fully adhere to its requirements.”**

|  |  |  |  |
| --- | --- | --- | --- |
| **Last** | **First** | **UNC Charlotte ID** | **Signature** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |