Standard Operating Procedure

Hydrogen Peroxide

**This is an SOP template and is not complete until: 1) lab specific information is entered into the box below 2) lab specific protocol/procedure is added to the protocol/procedure section and
3) SOP has been signed and dated by the PI and relevant lab personnel.**

Print a copy and insert into your *Lab-Specific Chemical Hygiene Plan*.

**Section 1 – Lab-Specific Information**

| **Building/Room(s) covered by this SOP:** | Click here to enter text. |
| --- | --- |
| **Department:** | Click here to enter a date. |
| **Principal Investigator Name:** | Click here to enter a date. |
| **Principal Investigator Signature:** | Click here to enter text. |

**Section 2 – Hazards**

Hydrogen peroxide is a strong oxidizer that has a potential to cause a fire or explosion in contact with incompatible materials such as combustibles (e.g., wood, paper, organic solvents). It is corrosive and light-sensitive. It is toxic if swallowed and corrosive to the eyes and skin. Prolonged exposure may cause dermatitis.



**Section 3 – Engineering Controls and Personal Protective Equipment (PPE)**

**Engineering Controls:** Use of hydrogen peroxide should be conducted in a properly functioning chemical fume hood whenever possible. The chemical fume hood must be approved and certified by REM and have a face velocity between 80 – 125 feet per minute.

**Hygiene Measures:** Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product.

**Hand Protection:** Chemical-resistant gloves must be worn, nitrile gloves are recommended for low volume applications. Wearing two pairs of nitrile gloves is recommended. **NOTE:** Consult with your preferred glove manufacturer to ensure that the gloves you plan on using are compatible with the specific chemical being used.

**Eye Protection:** ANSI approved properly fitting safety glasses or chemical splash goggles are required. A face shield may also be appropriate depending on the specific application.

**Skin and Body Protection:** Laboratory coats must be worn and be appropriately sized for the individual and buttoned to their full length. Personnel must also wear full length pants, or equivalent, and close-toed shoes. Full length pants and close-toed shoes must be worn at all times by all individuals that are occupying the laboratory area. The area of skin between the shoe and ankle must not be exposed.

**Respiratory Protection:** If hydrogen peroxide solution is being used outside of a chemical fume hood, respiratory protection may be required. If this activity is necessary, contact REM (49-46371) so a respiratory protection analysis can be performed.

**Vent**

**Section 4 – Special Handling and Storage Requirements**

* Avoid contact with skin, eyes, and clothing. Avoid inhalation or ingestion.
* Hydrogen peroxide solutions greater than 10% should be kept in their original container with the manufacturer cap that allows the container to vent oxygen while in storage as shown in the picture to the right.
* Do not store hydrogen peroxide solutions greater than 10% in glass containers; only plastic containers should be used for storage.
* Keep container tightly closed in a dry and well-ventilated area. Opened containers must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature is 2 – 8 oC.
* Store away from combustible materials. Do not store on wooden shelves. Store away from all organic compounds, including organic solvents.
* Avoid contact with powdered metals, zinc, iron, copper, nickel, and brass.

**Section 5 – Spill and Accident Procedures**

Immediately evacuate area and ensure others are aware of the spill. If there is an imminent threat of a fire, pull the nearest fire alarm station to evacuate the building and **dial 911**. If personnel have become exposed and need medical assistance, **dial 911**. If the spill is minor and does not pose a threat to personnel, contact REM at 49-40121 during normal business hours (Monday – Friday, 7 AM – 4 PM) for spill cleanup assistance (dial 911 if spill occurs after hours and assistance is needed).

**Section 6 – Waste Disposal Procedures**

Store hazardous waste in closed containers that are properly labeled, and in a designated area (flammable cabinet is recommended). No oxidizers are permitted to be poured down the drain. Complete a Chemical Waste Pickup Request Form to arrange for disposal by REM; detailed instructions are provided at the following link: <http://www.purdue.edu/ehps/rem/hmm/chemwaste.htm>.

**Section 7 – Protocol/Procedure (Additional lab protocol may be added here)**

Click here to enter text.

**NOTE:** Any deviation from this SOP requires approval from Principal Investigator.

**Section 8 – Documentation of Training (signature of all users is required)**

Prior to conducting any work with hydrogen peroxide, the Principal Investigator must ensure that all laboratory personnel receive training on the content of this SOP.

**I have read and understand the content of this SOP:**

| **Name** | **Signature** | **Date** |
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