**Standard Operating Procedure for Laboratories**

**DIMETHYL MERCURY**

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| Department: | Click here to enter text. |
| Principal Investigator(s): | Click here to enter text. |
| Lab Manager/Coordinator: | Click here to enter text. |
| Location of Experiment:  (Building/Room Number) | Click here to enter text. |
| Lab Phone: | Click here to enter text. |
| Office Phone: | Click here to enter text. |
| Emergency Contact: (Name/Phone) | Click here to enter text. |

**Reviewed and Approved by**:

|  |  |  |
| --- | --- | --- |
| PI: (Typed Name) | Click here to enter text. | |
| PI: (Signature and Date) |  | Click here to enter a date. |
| Lab Manager: (if PI unavailable) |  | Click here to enter a date. |

**Hazardous Material Use and Management**

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| Hazardous Material(s) Used: (wt./volume) | Dimethyl Mercury:  Maximum amount allowed without PI approval: |
| Hazardous Material Storage Location: | Store container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be resealed and kept upright to prevent leakage. Vapors may form explosive mixture with air. Avoid heat, flames/sparks, extremes of temperature and direct sunlight. Store away from strong oxidizing agents/oxidizers, acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium and copper.  Designated Storage Area: |
| Experimental Procedure and Lab Techniques to be Used: |  |
| Hazard Identification: (i.e., physical/health hazards) | **CAS # 593-74-8**  **GHS Classification: Highly flammable liquid and vapor. Fatal if swallowed, in contact with skin or if inhaled. Suspected carcinogen. May cause damage to organs through prolong or repeated exposure. Very toxic to aquatic life.**   * On decomposition emits toxic Hg fumes. * Cause acute and cumulative damage to the central nervous system, can irritate eyes, respiratory tract and skin. * Absorption doses though skin as low as 0.1 mL has proven to be fatal.   OSHA PEL: TWA 0.01 mg(Hg)/m3, CL 0.04 mg(Hg)/m3, skin  ACGIH TLV: TWA 0.01mg(Hg)/m3, BEL 35 µg/g creatinine total inorganic mercury in urine preshift.  NIOSH TWA: 0.01 mg/m3, STEL 0.03mg/m3, skin  Review MSDS/SDS prior to working with chemical. |
| Engineering Controls: (chemical fume hood, biosafety cabinet, glove box) | Always handle dimethylmercury inside a properly functioning chemical fume hood with adequate ventilation.  Contact lenses are not recommended when working organo mercury compounds.  Safety shower and eye wash must be easily accessible and functioning properly. |
| Protective Equipment: | Always handle with Silver Shield laminate gloves. This type of gloves is impermeable to dimethylmercury for at least 4 hours.  Thoroughly inspect gloves prior to each use.  Always check with glove manufacturer for more info.  Wear ANSI approved safety goggles and a long face shield (8” in length).  Wear fire/flame resistant lab coat (100% cotton based), full length pants and full-arm shirt/top and a closed-toe shoes. |
| Waste Collection/Disposal Method: | Store dimethylmercury waste in tightly closed container, in secondary containment and in a designated location inside a fume hood. Affix and complete hazardous waste label.  Contact REHS for waste pick up: <https://halflife.rutgers.edu/forms/hazwaste.php> |
| Spill Management: | Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.  Hazardous decomposition products formed under fire conditions. - carbon oxides, Mercury/mercury oxides.  Wear SCBA respirator.  Contain spill, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal.  If a spill happened outside fume hood, on floor, on bench or outside the lab contact REHS for clean up or call 911. |
| First Aid: | **Eyes**: Flush eyes with plenty of water for 15 min. Do not allow person to rub eyes or keep eyes closed. Seek immediate medical attention.  **Skin:** Flush skin with plenty of water for 15 min, while removing contaminated clothing. Seek medical attention.  **Inhalation**: remove to fresh air, if breathing is difficult give oxygen. Seek medical attention.  **Ingestion**: Rinse mouth with water. Seek immediate medical attention. |

**Training**

* Prior to conducting any work with dimethyl mercury, designated personnel must be provided training specific to the hazard involved in working with the substance.
* The PI must provide his/her lab personnel with a copy of the SOP and a copy of the SDS provided with the manufacturer.
* The PI must ensure that his/her lab personnel have attended and are up to date on the appropriate laboratory safety training within the last year.

I have read and understood the content of this SOP and the SDS:

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| --- | --- | --- |
| Lab Personnel  (Running the Experiment) | Date of Hands-on Training from Department | Signature of Lab Personnel |
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**DIMETHYL MERCURY**

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**FIRST AID**

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**Inhalation**: remove to fresh air, if breathing is difficult give oxygen. Seek medical attention.

**Ingestion:** Rinse mouth with water. Seek immediate medical attention.

**DIAL 911 Call REHS for more information 848-445-2550**