Standard Operating Procedure

2-Methylimidazole

Print a copy and insert into your   
*Laboratory Safety Manual* and *Chemical Hygiene Plan*.   
Refer to instructions for assistance.

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| **Department:** | Chemistry & Biochemistry |
| **Date SOP was written:** | 1/15/2013 |
| **Date SOP was approved by PI/lab supervisor:** | 1/15/2013 |
| **Principal Investigator:** | Irene Chen |
| **Internal Lab Safety Coordinator/Lab Manager:** | Irene Chen |
| **Lab Phone:** | 805-893-8085 |
| **Office Phone:** | 805-893-8364 |
| **Emergency Contact:** | Irene Chen, 617-710-8741 (cell) |
| *(Name and Phone Number)* |
| **Location(s) covered by this SOP:** | *Chemistry 1142* |
| *(Building/Room Number)* |

**Type of SOP:** ☐ Process ☒Hazardous Chemical ☐ Hazardous Class

**Purpose**

2-Methylimidazole is a corrosive chemical that may be harmful if ingested, inhaled, or absorbed through the skin. It causes burns by all exposure routes. 2-Methylimidazole is used as a raw material and a chemical intermediate in the agricultural, chemical, and pharmaceutical industries. It is also used in the manufacture of dyes and pigments and in photographic chemicals. It is a component of various polymers including epoxy resins, acrylic rubber-fluororubber laminates, films, adhesives, textile finishes, and epoxy silane coatings.

**Physical & Chemical Properties/Definition of Chemical Group**

CAS#: 693-98-1

Class: **Corrosive**

Molecular Formula: C4H6N2

Form (physical state): Solid

Color: White, light yellow

Boiling point: 267 - 270 °C

**Potential Hazards/Toxicity**

2-Methylimidazole may be harmful if ingested, inhaled, or absorbed through the skin. It causes burns by all exposure routes. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes severe skin burns and eye damage. Symptoms of exposure include spasm, inflammation and edema of the larynx and bronchi, pneumonitis, pulmonary edema, burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

**Personal Protective Equipment (PPE)**

**Hand Protection**

Handle with gloves. Nitrile gloves are recommended.

NOTE: Consult with your preferred glove manufacturer to ensure that the gloves you plan on using are compatible with 2-methylimidazole.

Refer to glove selection chart from the links below:

<http://www.ansellpro.com/download/Ansell_8thEditionChemicalResistanceGuide.pdf>

OR

<http://www.allsafetyproducts.biz/page/74172>

OR

<http://www.showabestglove.com/site/default.aspx>

OR

<http://www.mapaglove.com/>

**Eye Protection**

ANSI approved, tight-fitting glasses/goggles. Face shields are recommended.

**Skin and Body Protection**

Appropriately-fitting lab coat, long pants, closed-toe shoes.

**Hygiene Measures**

Avoid contact with skin, eyes, and clothing. Wash hands before breaks and after handling.

**First Aid Procedures**

**If inhaled**

Move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

**In case of skin contact**

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Take victim immediately to hospital.

**In case of eye contact**

Immediately flush eyes with plenty of water for at least 15 minutes lifting upper and lower eyelids and removing contact lenses. Consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do not induce vomiting. Never give anything by mouth to an unconscious person. If victim is conscious and alert, rinse mouth with water and give 2-4 cupfuls of milk or water. Consult a physician.

**Special Handling and Storage Requirements**

**Precautions for safe handling:** Avoid contact with skin, eyes, and clothing. Avoid inhalation and ingestion. Avoid dust formation. Provide adequate exhaust ventilation. Normal measures for preventative fire protection.

**Conditions for safe storage:** Keep container tightly closed in a cool, dry, and well-ventilated area. Store in corrosives area. Avoid strong oxidizing agents, acids, acid chlorides, and acid anhydrides.

**Spill and Accident Procedure**

**Chemical Spill Dial 9-911 and call EH&S at 893-3194**

**Spill** – Assess the extent of danger. Help contaminated or injured persons. Evacuate the spill area. Avoid breathing vapors. If possible, confine the spill to a small area using a spill kit or absorbent material. Keep others from entering contaminated area (e.g., use caution tape, barriers, etc.).

**Small (<1 L)** – If you have training, you may assist in the clean-up effort. Use appropriate personal protective equipment and clean-up material for chemical spilled. Double bag spill waste in clear plastic bags, label and take to the next chemical waste pick-up.

**Large (>1 L)** – Dial **911** and EH&S at **893-3194** for assistance.

**Chemical Spill on Body or Clothes** – Remove clothing and rinse body thoroughly in emergency shower for at least 15 minutes. Seek medical attention. *Notify supervisor and EH&S at* **893-3194** *immediately.*

**Chemical Splash Into Eyes** – Immediately rinse eyeball and inner surface of eyelid with water from the emergency eyewash station for 15 minutes by forcibly holding the eye open. Seek medical attention. *Notify supervisor and EH&S at* **893-3194** *immediately.*

# **Medical Emergency Dial 9-911**

**Life Threatening Emergency:** Dial 9-**911** Contact PI and EH&S as soon as practical. *Note: All serious injuries must be reported to EH&S at x3194 within 8 hours.*

**Non-Life Threatening Emergency** – Go to Student Health, building 588, **x5361,** Hours: M, T, R, F 8 a.m. to 4:30 p.m, W 9 a.m. to 4:30 pm and R 5 to 7 p.m. by appointment. At all other times report to Goleta Valley Cottage Hospital (emergency room) at 351 South Patterson Avenue, **805-967-3411**. Contact PI and EH&S as soon as practical.*Note: All serious injuries must be reported to EH&S at x3194 within 8 hours.*

**Decontamination/Waste Disposal Procedure**

Wearing proper PPE, decontaminate equipment and bench tops using soap and water. Sweep up or shovel spills avoiding dust formation. Dispose of the used chemical and contaminated disposables as hazardous waste following the guidelines below.

*General hazardous waste disposal guidelines:*

**Label Waste**

* Affix an on-line hazardous waste tag on all waste containers (refer to the Online Tag Program <http://otp.ucop.edu/> ) as soon as the first drop of waste is added to the container

**Store Waste**

* Store hazardous waste in closed containers, in secondary containment and in a designated location
* Double-bag dry waste using transparent bags
* Waste must be under the control of the person generating & disposing of it

**Dispose of Waste**

* Dispose of regularly generated chemical waste within 90 days
* Call EH&S for questions and for pick-up
* Empty Containers: Dispose as hazardous waste irrespective of the container size

Prepare for transport to pick-up location

* Check waste tag
* Use secondary containment

**Safety Data Sheet (SDS) Location**

Online SDS can be accessed at <http://www.chem.ucsb.edu/about/safety> .

**Protocol/Procedure**

2-methylimidazole is a corrosive compound. Take care when weighing solid and keep weighing station clean. Clean up spills quickly as described. Always wear protective clothing including eyewear; do not allow the compound to come into contact with skin. Keep hazards in mind when working with solutions as well.

**NOTE**

Any deviation from this SOP requires approval from PI.

**Documentation of Training** (signature of all users is required)

* Prior to conducting any work with 2-methylimidazole, designated personnel must provide training to his/her laboratory personnel specific to the hazards involved in working with this substance, work area decontamination, and emergency procedures.
* The Principal Investigator must provide his/her laboratory personnel with a copy of this SOP and a copy of the SDS provided by the manufacturer.
* The Principal Investigator must ensure that his/her laboratory personnel have attended appropriate laboratory safety training or refresher training within the last one year.

I have read and understand the content of this SOP:

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