# Standard Operating Procedure (SOP)

## CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS

| Effective Date: | 8/23/2013 | Revised Date: | 9/01/2022 |

## Introduction

- This SOP applies to CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS.
- The provisions for working with these substances may include, but is not limited to:
  - Establishing a designated area for work
  - Use of containment devices such as a fume hood or glove box
  - Procedures for safe removal of waste contaminated with the substance
  - Decontamination procedures

## POTENTIAL HAZARDS

- Consult the SDS for specific hazards, both chemical and physical, of the compounds prior to its use.
- In addition to the toxicological hazard associated with these compounds, additional chemical or physical hazards may be present requiring additional safety precautions or PPE criteria.

## Health Hazards

- Carcinogens are substances capable of causing cancer.
- Reproductive toxins are defined by OSHA as “chemicals that affect the reproductive capabilities including adverse effects on sexual function and fertility in adult males and females, as well as adverse effects on the development of the offspring.” (29 CFR 1910.1200)
- Substances with high acute toxicity “may be fatal or cause damage to target organs as a result of a single exposure or exposure of short duration”. (29 CFR 1910.1200 Preamble).

## Personal Protective Equipment

### EYE PROTECTION

- Safety glasses, goggles or face shields shall be worn during operations in which CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS might contact the eyes (e.g., through vapors or splashes of solution).
- Ordinary (street) prescription glasses do not provide adequate protection. Adequate safety glasses must meet the requirements of the Practice for Occupational Education Eye and Face Protection (ANSI Z87.1-1989) and must be equipped with side shields.

### HAND PROTECTION

- Use disposable nitrile gloves when working with CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS. Check chemical compatibility chart for breakthrough time when using CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS.
Laboratory personnel should thoroughly wash hands with soap and water before and immediately upon removal of gloves.

**LAB COATS, ETC.**
- Button lab coats, closed toed shoes, long pants and long sleeved clothing shall be worn when handling CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS. Protective clothing shall be worn to prevent any possibility of skin contact with CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS.

**Work Practices**
- All work with Carcinogens, Reproductive Toxins or Acutely Toxic Compounds is to be conducted in the fume hood. If this is not possible, contact the Office of Environmental Health and Safety at x3427 prior to beginning work.
- A designated work area is to be established in the hood whenever using Carcinogens, Reproductive Toxins or Acutely Toxic Compounds.
- The fume hood must be marked with a warning identifying the compound in use and the chief hazard associated with the compound.
- The area must be maintained in a clean and orderly fashion.
- After working with the compound the designated area is to be decontaminated with soap and water, or by means stated in the SDS.

**Special Handling Procedures and Storage Requirements**
- Do not store with incompatible material.
- Storage areas for CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS are to be marked accordingly to identify the specific hazard.

**Additional Lab Specific Special Handling/Storage Procedures**

**Waste Disposal**
Excess CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS and all waste material containing CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS must be placed in a container labeled with the following “HAZARDOUS WASTE CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS”, AND THE FULL CHEMICAL NAME.

Contact EHS at x3427 for hazardous waste removal.

**Emergency Numbers**
CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC COMPOUNDS

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Fire and Medical Emergencies        x5911 (911 on cell phone)
Environmental Health and Safety    x3427
FastMed Urgent Care (employees)   (336) 714-4616
Student Health (students only)   x5218
Poison Control                     800-222-1222

First Aid

<table>
<thead>
<tr>
<th>INGESTION</th>
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<tbody>
<tr>
<td>➢ If swallowed do <strong>NOT</strong> induce vomiting.</td>
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<tr>
<td>➢ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</td>
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<tr>
<td>➢ Observe the patient carefully.</td>
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<tr>
<td>➢ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</td>
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<tr>
<td>➢ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</td>
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<tr>
<td>➢ Seek medical advice.</td>
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<tr>
<td>➢ Avoid giving milk or oils.</td>
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<tr>
<td>➢ Avoid giving alcohol.</td>
</tr>
<tr>
<td>➢ If spontaneous vomiting appears imminent or occurs, hold patient’s head down, lower than their hips to help avoid possible aspiration of vomitus.</td>
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<table>
<thead>
<tr>
<th>EYE CONTACT</th>
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<tbody>
<tr>
<td>➢ If this product comes in contact with the eyes:</td>
</tr>
<tr>
<td>➢ Immediately hold eyelids apart and flush the eye continuously with running water.</td>
</tr>
<tr>
<td>➢ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</td>
</tr>
<tr>
<td>➢ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</td>
</tr>
<tr>
<td>➢ Transport to hospital or doctor without delay.</td>
</tr>
<tr>
<td>➢ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</td>
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<tr>
<th>SKIN CONTACT</th>
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<tbody>
<tr>
<td>➢ If skin or hair contact occurs:</td>
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<tr>
<td>➢ Immediately flush body and clothes with large amounts of water, using safety shower if available.</td>
</tr>
<tr>
<td>➢ Quickly remove all contaminated clothing, including footwear.</td>
</tr>
<tr>
<td>➢ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Center.</td>
</tr>
<tr>
<td>➢ Transport to hospital, or doctor.</td>
</tr>
</tbody>
</table>
INHALATION

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

Spill and Accident Procedure

Eliminate ignition sources. Consider evacuation. Prevent from entering drains. Contain spillage by any means. Control vapor with water spray/ fog. Absorb with dry agent. Stop leak if safe to do so. Take precautionary measures against static discharges. Dispose of this material and its container at hazardous or special waste collection point. This material and its container must be disposed of in a safe way. To clean the floor and all objects contaminated by this material, use water and detergent.
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Chemical Spill or Release

Stop release if safe.  
Stop spread of spill with Spill Control Kit

Safe to stay in area

Call Lab Manager  
Or  
ICP Coordinator – 336-830-9394  
Or  
Emergency Manager – 336-908-1290  
Or  
University Police – 336-758-5911

Identify chemical.  
Look for marking or label.

Unsafe to stay in area

Notify occupants to evacuate.  
Shut door upon leaving.

Safe to stay in building

Call Lab Manager  
Or  
ICP Coordinator – 336-830-9394  
Or  
Emergency Manager – 336-908-1290  
Or  
University Police – 336-758-5911

Unsafe to stay in building

Pull Fire Alarm.  
Evacuate.