# STANDARD OPERATING PROCEDURES FOR HAZARDOUS AND PARTICULARLY HAZARDOUS CHEMICALS

For

## Toluene

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| 1. PROCEDURE /  PROCESS | Toluene is used in **Building, Room.**  **Insert procedure here:** |
| 2. CHEMICAL NAME(S)  and associated  PHYSICAL and  HEALTH  HAZARDS | **Toluene – CAS# 108-88-3;** also known as Toluol, Tolu-Sol; Methylbenzene; Methacide; Phenylmethane; Methylbenzol   * **Highly Flammable Liquid and Vapor. May form explosive mixtures in air.** * **May be fatal if swallowed and enters airways.** * **Toluene is a suspected reproductive toxin (teratogen) therefore it may damage fertility or the unborn child.** * **Causes skin irritation and serious eye irritation.** * **May cause drowsiness or dizziness.** * **This substance, which can be absorbed through the skin, may cause damage to organs through prolonged or repeated exposure. This substance may be toxic to blood, kidneys, the nervous system, liver, brain, and central nervous system (CNS).**   Signal Word: **DANGER**  Exposure Limits:  **DOSH:** TWA: 100 ppm; STEL: 150 ppm  **OSHA:** TWA: 200 ppm; CEIL: 300 ppm; 500 ppm (10 min peak per 8 hr shift)  **NIOSH:** TWA: 100 ppm; STEL: 150 ppm  Toxicological Data:  **ORAL (LD50):** 636 mg/kg [Rat]  **DERMAL** **(LD50):** 14,100 mg/kg [Rabbit]  **INHALATION (LC50):** 49,000 mg/m 4 hours [Rat]; 440 ppm 24 hours [Mouse]  \***Always refer to the Safety Data Sheet for the most detailed information**\* |
| 3. NAME OF TRAINER /  RESOURCE  PERSON | **Principal Investigator Name, Building, Room, Phone Number**  **Secondary contact Name, Building, Room, Phone Number** |
| 1. LOCATION OF   HEALTH & SAFETY  INFORMATION | The Safety Data Sheet (SDS) for Toluene is located in the Laboratory Safety Manual located in **Building, Room**.  Labeling: In addition to the standard label that identifies contents, hazards, precautionary measures, and emergency contact information, containers should also be marked Reproductive Toxin. |
| 5. PROTECTIVE  EQUIPMENT | Wear chemical safety goggles, nitrile gloves and a fully-buttoned lab coat. If gloves are contacted, replace them immediately. For more than incidental splash contact, wear Viton or PVA gloves. Wash hands after removing gloves. Always work within a properly functioning certified laboratory chemical fume hood. |
| 1. WASTE DISPOSAL   PROCEDURES | **Waste Toluene** must be collected in its pure form and solutions. It should be collected in a sealable, airtight, compatible waste container. The container should be stored away from incompatible materials such as strong oxidizers, silver perchlorate, sodium difluoride, Tetranitromethane, and Uranium Hexafluoride.  A completed Dangerous Waste label should be attached when waste is first added to the container. When container is full or no longer being used, complete a Chemical Collection Request Form, and deliver to the Waste Accumulation Area Operator at **Building, Room, Phone Number.** |
| 7. DESIGNATED AREA  INFORMATION | The toluene is stored and dispensed in **Building, Room**.  **Always work in a properly functioning, certified laboratory chemical fume hood.**  The designated area(s) should be shown on the floor plan in Laboratories Chemical Hygiene Plan. |
| 8. DECONTAMINATION  PROCEDURES | **Upon Accidental Exposure**:  In case of **eye contact**, flush eyes with copious amounts of water at an emergency eyewash station for at least 15 minutes and seek medical attention.  In case of **skin contact**, flush skin with copious amounts of water for 15 minutes and seek medical attention. For exposure over a large portion of the body, remove clothing and shoes and rinse thoroughly in an emergency shower for at least 15 minutes. Seek medical attention.  In case of **inhalation**, move person to fresh air and immediately seek medical attention.  In case of **ingestion**, immediately seek medical attention and follow instructions on SDS.  **Upon Accidental Release**:  **Large Spill**: If a large amount of Toluene is spilled outside the fume hood, immediately evacuate and secure area and call 911 to contact EH&S.  **Small Spill**: If a small amount of Toluene is spilled (it can be cleaned up in 10 minutes) and you have been appropriately trained to clean it up, you may do so. Trained personnel should wear at the minimum nitrile rubber, Viton, or PVA gloves, chemical safety goggles, and a fully-buttoned lab coat.  Additional PPE such as respirators may be necessary depending upon material and concentration. (Note: You must be medically cleared, fit tested and enrolled in WSU’s respiratory protection program to wear a respirator). If it is necessary to use a respirator and personnel are not cleared to wear a respirator and not trained to appropriately clean up the spill, the employee should immediately evacuate, secure area, and call 911 to contact EH&S.  Absorb with an inert dry material and place material in an appropriate waste disposal container (resealable bag, etc.) and dispose of as hazardous waste (see above WASTE DISPOSAL PROCEDURES).  As with all accidents, report any exposure as soon as possible to your Principal Investigator or Supervisor. Additional health and safety information on Toluene can be obtained by referring to the SDS or by calling the EH&S Office (335-3041). |
| 1. SPECIAL STORAGE   AND HANDLING  PROCEDURES | Store in a tightly closed container in a secured, cool, dry and well-ventilated area. Store segregated from incompatible chemicals (below). Store as a flammable material. Store away from direct sunlight, heat, sparks, flame or any other source of ignition.  Keep away from incompatibles such as strong oxidizers, silver perchlorate, sodium difluoride, Tetranitromethane, and Uranium Hexafluoride.  Frozen Bromine Trifluoride reacts violently with Toluene at -80 °C. Reacts chemically with nitrogen oxides, or halogens to form nitrotoluene, nitrobenzene, and nitrophenol and halogenated products, respectively. |

**Certification of Hazard Assessment**

Is this document a certification of Hazard Assessment for the processes identified within? ***Yes No***

If yes, provide the name of the person certifying the Hazard Assessment and the date it was performed:

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Name Date

The location of the Hazard Assessment is indicated in the document preceding this form.

**Certificate of Employee Training**

Name of person providing training for employees working with this process:

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The following employees have been trained in when, where and how to use selected PPE, the maintenance, limitations and disposal of the PPE selected, and have demonstrated the correct use of the PPE selected on the reverse of this certification.

**Name**  **Date Trained**

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