**Standard Operating Procedure**

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| **Chemical name/class:** | **Dichloromethane**  | **CAS #: 75-09-2** |
| **PI:** |  | **Date:** |
| **Building:** |  | **Room #:** |

1. **Circumstances of Use:**

***This SOP must be customized for each lab using Dichloromethane (Methylene Chloride). Use this section to describe the circumstances of use, including concentration and quantity as well as identification of a designated work area.***

2. **Potential Hazards:**

 **Dichloromethane is suspected of causing cancer**.

 Repeated exposures to Dichloromethane may cause damage to organs (liver, blood) and the central nervous system.

 Dichloromethane is an eye and skin irritant.

 The OSHA Permissible Exposure Limit for Dichloromethane is 25 ppm over an 8 hour work shift and 125 ppm as a ceiling limit (exposure must never exceed this level).

 For more information, refer to *Prudent Practices in the Laboratory* (National Academies Press)

<https://www.nap.edu/read/4911/chapter/14?term=dichloromethane#295>

3. **Engineering Controls:**

Work with Dichloromethane in a chemical fume hood.

4. **Work Practice Controls:**

 Keep containers of Dichloromethane closed as much as possible.

 Be aware of skin absorption as a possible route of exposure. Plan work so that minimal glove contact is expected, and purchase appropriate gloves for cleaning up small spills (for glove recommendation, see Spill Procedure & PPE sections).

 Use in the smallest practical quantities for the experiment being performed.

5. **Personal protective equipment (PPE):**

The minimum PPE for work with Dichloromethane is doubled nitrile laboratory gloves, lab coat, and safety glasses. Keep in mind that chloroform will penetrate nitrile gloves in less than 4 minutes, so if glove contact occurs, change the outer glove and replace, careful not to touch the glove’s outer surface. If a splash may occur, wear chemical splash goggles and/or a face shield.

6. **Transportation and Storage:**

 **Group II, Volatile Toxin**

 Do not store dichloromethane with incompatibles, which include Aluminum, Oxidizers, Bases, Amines, Strong Acids.

 Store in secondary containment.

 Avoid storing on the floor.

 Transport Dichloromethane in secondary containment, preferably a polyethylene or other non-reactive acid/solvent bottle carrier.

7. **Waste Disposal:**

Handle and store Dichloromethane waste following the guidelines above while accumulating wastes and awaiting chemical waste pickup. Chemical waste must be disposed of following UNC Charlotte’s Laboratory Chemical Waste Management practices <https://safety.uncc.edu/services/laboratory-research-safety>.

8. **Exposures/Unintended contact:**

 Flush exposed eyes or skin with water for at least 15 minutes, then seek emergency medical attention.

 For volatile toxic liquids, remove all persons from the contaminated area. (It may be necessary to go outside.)

 Call 911 from a campus phone or 704-687-2200 from any phone to request assistance if needed. Contact the Student Health Center at 704-687-7400 for exposure-related advice. If the Student Health Center is closed, obtain treatment at University Hospital.

The work-related injury or illness report found at:

<https://safety.uncc.edu/services/workers-compensation>

9. **Spill Procedure:**

Spills of dichloromethane inside a chemical fume hood, or small spills outside a hood, may be cleaned by laboratory personnel. Wear appropriate gloves, splash goggles, lab coat (and impermeable apron, if available) and use absorbent pads to absorb spilled material. Appropriate gloves must be worn since dichlormethane readily penetrates standard laboratory nitrile, neoprene, and latex gloves and glove contact will occur during cleanup. Vition gloves are recommended for spill cleanup. Contact EHS at 704-687-1111 for pick-up of spill clean-up materials (including contaminated PPE).

On the UNC Charlotte campus, “large” spills of volatile hazardous materials, including Dichloromethane, must be referred to the Campus Police by calling 911 from a campus phone or 704-687-2200 from any phone.

10. **Training of personnel:**

All personnel are required to complete the UNC Charlotte EHS Laboratory Environment Training Checklist. This checklist includes an introduction to general chemical safety as well as review of the laboratory specific safety plan. Furthermore, all personnel shall read and fully adhere to this SOP when handling the chemical.

**“I have read and understand this SOP. I agree to fully adhere to its requirements.”**

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