

# HOW TO RESPOND DURING CHEMICAL SPILL

Work in buddy system

ALERT & INFORM →

EVALUATE RISKS →

**DON PPE**

← POST CLEAN UP

**DOFF PPE** ←

CLEAN UP

**4. Safety goggles**

**3. Respirator**

**5. Inner layer gloves**

**6. Outer layer gloves**

**1. Chemical resistant suit/apron (suit to be worn over the boots so chemicals will not flow into the boots)**

**2. Chemical resistant boots**

**4. Safety goggles (handle by head band)**

**5. Respirator (handle by straps)**

**6. Inner layer gloves**

**1. Outer layer gloves**

**2. Chemical resistant suit/apron**

**3. Chemical resistant boots**



# CHEMICAL SPILL RESPONSE PROCEDURES

## Scenario 1: Chemical Spill **OUTSIDE** Fume hood

Raise Alarm	1. Alert and inform. Place warning sign to cordon off the spill area.
Contain & Disinfect	2. Evaluate risk and extent of chemical spill. Refer to safety data sheet for detailed information of chemical hazards. 3. Don PPE. 4. Place absorbent booms to contain spill. Encircle spill area with proper neutralizing agent (acid neutralizer/base neutralizer). 5. Handle any sharp objects with tongs. Gently sweep small broken glass pieces into dust pan to prevent generation of dust. Discard into sharps container. 6. Read neutralizing container to determine correct contact time or observe any colour change for material to be neutralized. Carefully sweep/shovel up spilled materials and ensure area is completely neutralized by pH paper. Collect contaminated materials with tongs. Discard waste into double chemical resistant hazardous waste bag. 7. Clean up area with water. Allow to air-dry.
Dispose & Notify	8. Doff PPE. 9. Dispose chemical waste into double chemical resistant hazardous waste bag. Waste shall be collected during quarterly chemical waste disposal exercise organized by RFM. Label bag with chemical waste label. 10. Wash hands with antiseptic soap. 11. Notify PI/supervisor and report incident to OSHE via AIMS within 24 hours.

# CHEMICAL SPILL RESPONSE PROCEDURES

## Scenario 2: Chemical Spill *INSIDE* Fume hood

Raise Alarm	<ol style="list-style-type: none"><li>1. Shut the sash of fume hood.</li><li>2. Alert and inform. Place warning sign to cordon off the spill area.</li></ol>
Contain & Disinfect	<ol style="list-style-type: none"><li>3. Evaluate risk and extent of chemical spill. Refer to safety data sheet for detailed information of chemical hazards.</li><li>4. Don PPE (Respirator and chemical resistant boots not necessary). Do not place head inside fume hood.</li><li>5. Place absorbent material to contain spill. Encircle spill area with proper neutralizing agent (acid neutralizer/base neutralizer).</li><li>6. Read neutralizing container to determine correct contact time or observe any colour change for material to be neutralized. Carefully sweep/shovel up spilled materials and ensure area is completely neutralized by pH paper. Collect contaminated materials with tongs. Discard waste into double chemical resistant hazardous waste bag.</li><li>7. Clean up area with water. Allow to air-dry.</li><li>8. Doff PPE.</li></ol>
Dispose & Notify	<ol style="list-style-type: none"><li>9. Dispose chemical waste into double chemical resistant hazardous waste bag. Waste shall be collected during quarterly chemical waste disposal exercise organized by RFM. Label bag with chemical waste label.</li><li>10. Wash hands with antiseptic soap.</li><li>11. Notify PI/supervisor and report incident to OSHE via AIMS within 24 hours.</li><li>12. Engage certification vendor to disinfect interior parts of fume hood (ducts, filter, fans) if necessary.</li></ol>

# REFERENCES

- **Chemical Spill Response (OSHCHM05)**
- **NUS Laboratory Chemical Safety Manual (NUS/OSHE/M/02)**
- **Yong Loo Lin School of Medicine Safety Manual, 4<sup>th</sup> Edition.**