HOW TO RESPOND DURING CHEMICAL SPILL

Work in buddy system

ALERT & INFORM ➡ **EVALUATE RISKS** ➡ ***DON PPE***

⬇

CLEAN UP ⬅ ***DOFF PPE*** ⬅ **POST CLEAN UP**

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

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

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 AIRS within 24 hours.**

CHEMICAL SPILL RESPONSE PROCEDURES

Scenario 2: Chemical Spill *INSIDE* Fume hood

Raise Alarm	**1. Shut the sash of fume hood.** **2. Alert and inform. Place warning sign to cordon off the spill area.**
Contain & Disinfect	**3. Evaluate risk and extent of chemical spill. Refer to safety data sheet for detailed information of chemical hazards.** **4. Don PPE (Respirator and chemical resistant boots not necessary). Do not place head inside fume hood.** **5. Place absorbent material to contain spill. Encircle spill area with proper neutralizing agent (acid neutralizer/base neutralizer).** **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.** **8. Doff PPE.**
Dispose & Notify	**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 AIRS within 24 hours.** **12. Engage certification vendor to disinfect interior parts of fume hood (ducts, filter, fans) if necessary.**

REFERENCES

- **Chemical Spill Response (OSHCHM05)**
- **NUS Laboratory Biorisk Management Manual (NUS/OSHE/M/01), Version 4.2.**
- **Yong Loo Lin School of Medicine Safety Manual, 4th Edition.**