

## I. Introduction

The CWU Chemistry department's highest priority is to protect employee and student health and safety. On that basis, CWU Chemistry employees or students will not attempt to clean up an "uncontrolled" spill as defined by WAC 296-824-100 (see section II below). Equally important is the ability for lab employees to recognize the difference between an uncontrolled spill and a simple spill and how to respond appropriately. Uncontrolled spills shall be cleaned up only by people with Emergency Response Training, as outlined by WAC 296-824-30005, and appropriate safety equipment. Spills not fitting the definition of uncontrolled or complex are hereafter referred to as "incidental" spills as defined in WAC 296-824-100.

## II. Definitions

**Uncontrolled spill** – An uncontrolled spill or release is one where significant safety and health risks could be created. The American Chemical Society uses the term "complex" spill. (WAC 296-824-100)

Examples of Conditions that Could Create a Significant Safety and Health Risk

- Large-quantity releases
- Small-releases that could be highly toxic
- Potential contaminated individuals arriving at hospitals
- Airborne exposures that could exceed a permissible exposure limit (PEL) or published exposure limit and employees are not adequately trained and equipped to control that release

Specific Examples of Uncontrolled Spills

- One-liter of chloroform spilled on the floor or benchtop
- One-gallon of acetone in the presence of boxes, chemicals, and an ignition source
- One-quarter liter of fuming nitric acid spilled on organic material
- One liter of tetrahydrofuran spilled on the floor

General Examples of Uncontrolled Spills

- Any time the quantity of a spill is equal to or greater than 4 liters
- Involves serious injury
- Involves fire
- Presents an inhalation risk that requires respiratory protective equipment

Any type of spill that *could* fall into one or more of the above examples is by definition an Uncontrolled Spill and requires emergency assistance by calling 9-1-1.

**Incidental spill** – An incidental spill is a release that can safely be controlled at the time of release and does not have the potential to become an uncontrolled spill. The American Chemical Society uses the term "simple" spill. (WAC 296-824-100)

### Spill Responsibilities

Laboratory employees are responsible for incidental spills of chemicals they commonly use as part of their laboratory operations. Clean up of incidental spills is part of managing lab chemicals properly. All spills, regardless of volume, should be reported to the department Safety Officer as a near miss for incident tracking and trend analysis.

Individual labs where hazardous materials are used or stored must maintain spill kits for the type of materials in that space. Research labs are responsible for maintaining appropriate spill kits for their own individual needs as identified by the PI. Teaching lab spill kits are maintained by the stockroom manager.

All persons working with chemicals (professors, lab instructors, stockroom technicians, teaching assistants, research assistants, etc.) are responsible for reading Safety Data Sheets (located in Room 303, the hall outside Room 311, through the FileMaker database, or online via web search) prior to each lab or research activity and becoming familiar with the hazardous properties of the chemicals being used. (WAC 296-800-12005) This information is vital to appropriately responding to a chemical spill.

Stockroom personnel and the Safety Officer may provide assistance in cleaning up incidental spills. Assistance in cleaning up spills is limited to providing depleted clean-up materials normally contained in spill kits, assisting in keeping the area clear while clean-up is being performed, monitoring the clean-up of incidental spills, assisting in exceptionally large quantity incidental (non-hazardous) spills, or acting as a point of contact for emergency responders in case of an uncontrolled spill.

### III. Spill Classification Procedure

In the event of a spill, the following five questions are to be asked in order to classify whether the spill is an uncontrolled spill or an incidental spill.

1. Do you know what spilled?
2. Do you know the hazards of the spilled material? See SDS for hazards.
3. Is the spill contained within the immediate area?
4. Is there **NO** *serious* danger to people or property? Consider:
  - Injuries or illness potential
  - Fire or explosion potential
  - Flammable vapors and ignition sources
  - Toxic vapors or dusts
  - Material is a strong oxidizer
  - Material is air, water, or otherwise highly reactive
5. Can you protect yourself and others from the hazards?

**Are you unsure if the answer is “YES”?**  
**Then the answer is “NO”**

**If you answer “NO” to *any* of the above questions, the spill is considered by definition as uncontrolled. Do NOT clean up the spill, evacuate the area, and call 9-1-1. Call or send someone to notify the Safety Officer 963-1307.**

If you answer “YES” to ALL the above questions, the spill is by definition an incidental spill and can be cleaned-up using the procedure below in section IV.

### IV. Incidental Spill Clean-up

The following steps should be taken during simple spill clean-up.

1. Put on appropriate PPE.
2. Prevent the spread of dusts and vapors.
3. Control the spread of liquid.
4. Neutralize acids and bases, if possible.
5. Absorb the liquid.
6. Collect and contain the clean-up residue.
7. Dispose of the wastes, following the department waste disposal guidelines.
8. Decontaminate the area and affected people.

## **V. Emergency Response Procedure for Uncontrolled Spills**

1. Evacuate the area.
2. Call for emergency responders. Dial 9-1-1.
3. Assist contaminated persons - see Emergency Action Plan, Personal Injury.
4. Keep people from entering the evacuated area.

## **VI. Spill Kit Equipment**

### **Teaching Labs**

1. Personal Protection Equipment (PPE) as needed.
2. A spill kit for non-Mercury spills containing:
  - Safety goggles
  - Nitrile gloves
  - Spilfyter spill pads -this is a universal absorbent pad for use with all chemicals (except hydrofluoric acid). 3M Sorb Pads for use with hydrofluoric acid are available from the stockroom
  - Non-sparking scoop for collecting spill
  - Plastic bag for collection of waste
  - HazMat label for identifying contents of waste bag
3. Mercury Spill Kit - A spill response kit for cleanup of mercury spills ONLY containing:
  - Flowers of sulfur powder in shaker container,
  - Plastic dust pan and brush,
  - Plastic Tupperware container for collection of waste.

**Location of Teaching Lab Spill Kits** - Spill kits are located in the following rooms: 117a, 204, 210, 212, 215, 215a, 217, 219.

### **Research Labs**

Research labs are responsible for maintaining appropriate spill kits. Spill kit equipment should be ordered through the department safety officer.

## VII. Post-Spill Evaluation

After the clean-up of an incidental spill, the department safety officer, will evaluate the cause(s) of the spill and the effectiveness of the response actions to identify opportunities for improvement and revise policies, procedures, and training accordingly.

In the event of an uncontrolled spill, the department safety officer will coordinate with campus EH&S, to evaluate the cause(s) of the spill and the effectiveness of the response actions to identify opportunities for improvement and revise policies, procedures, and training accordingly.

## VIII. Training

All department employees that work in an area that has the potential for an uncontrolled spill must be trained (WAC 296-24-567). The training will include:

- The department's spill response policy and procedure
- Understanding what a hazardous material is and associated risks
- Recognizing the presence of hazardous material during an emergency
- Understanding the potential consequences of a hazardous material in an emergency
- Recognizing the need to initiate First Responders by dialing 9-1-1

### Student Employees

Teaching assistants, stockroom assistants, and research assistants receive training of the above items during their "New Department Employee Safety Training" upon their initial assignment as either a TA or RA. This initial training is conducted by the department safety officer. Additionally, all lab instructors, research advisors, and the stockroom manager will provide additional, specific spill response instructions relevant to their current activities.

### Department Faculty and Staff

Department faculty and staff receive training on the above items during their first week as part of their new hire orientation.

### Training Evaluation

The department safety officer will periodically evaluate the effectiveness and preparedness in spill response of individuals working in laboratories by inquiring the following:

- Does the individual know what they are working with?
- What are the hazards of the chemical they are working with?
- If this chemical spilled, what would be the proper response?

Should deficiencies be identified, the safety officer will conduct remedial training with the lab personnel and notify the lab responsible person of the deficiency, remedial training undertaken, and recommended corrective action.

## **IX. Incident Reporting**

After clean-up of spill, determine the cause of the spill and identify measures to prevent future spills. Complete an EH&S Safety Hazard/Incident Report or a Chemistry Department Near-Miss form. Under corrective action taken, ask the persons involved to describe how to prevent such spills in the future. Give the report signed by the faculty, staff, or student to the department safety officer. The safety officer will keep a record of the spill as a near miss or incident for recordkeeping and incident trend analysis purposes. Use this opportunity to review safety procedures with faculty, staff, and students.