

# SF SANTA FE COLLEGE

## LABORATORY HAZARD ASSESSMENT CHECKLIST

Use this checklist to answer three critical questions prior to beginning any laboratory work:

- 1) What hazards are involved?
- 2) What should I do to protect against these hazards?
- 3) What should I do if something goes wrong?

### Pre-Planning

Toxicity

What is the toxicity level? What are the means of exposure (inhalation, skin absorption, ingestion, injection), and which of these are likely under the conditions of use? What are the signs and symptoms of overexposure?

Flammability

Is the material flammable or explosive under the conditions of use? Where is the nearest fire safety equipment?

Warning Signs

Can any sign adequately warn of overexposure before it becomes dangerous?

Laboratory Equipment

Is laboratory equipment in good condition? Are machine guards and/or interlocks in place and functioning?

Storage Precautions

Does the material require isolated, refrigerated, or other special storage conditions?

Incompatible Materials

Should certain materials be segregated (e.g., flammables and oxidizers)?

Reagent Stability

Should materials be dated for disposal? Should materials be kept refrigerated to prolong shelf life?

Protective Clothing

Is a lab coat, apron, or other clothing made of resistant material needed, or is a standard lab coat adequate?

Gloves

What glove type is needed? Is the right type, thickness, length, and size available for the materials being handled?

Eye Protection

What type of eye protection is needed? Is a face shield needed as well?

Heat Sources

Is heating needed? Is there an alternative to open flames? Are heating mantles in good condition?

Electrical Equipment

Is equipment grounded/ bonded properly? Are cords insulated? Is ground fault circuit interruption (GFCI) needed?

Vacuum/Pressure Systems

Have connections been leak tested, hydrostatically tested, properly vented, and traps installed when necessary?

Ventilation/Containment

Should the work be done in a chemical hood, ventilated cabinet, or glove box to provide necessary containment?

### **Scale & Design**

Quantity

Are there ways to minimize the amount of materials used without affecting results?

Ambient Conditions

Are special conditions necessary to carry out the reaction (e.g., cold room or dry box)?

Time Constraints

Can the work be completed while lab workers are present? If not, can the work be safely run unattended?

### **Spills/Emergencies**

Lab Personnel

Are others in the laboratory aware of what you are doing?

Fire Extinguishers

Are special extinguishers required? Do you know their location and proper use?

Emergency Response

Do you know the emergency response plan in the event of a spill?

Spill Cleanup

Are materials on hand to absorb/neutralize spills? Is protective equipment on hand, and are you trained on its use?

Safety Shower/Eyewash Fountain

Do you know where the showers and eyewash stations are? Do you know how and when to use them?

### **Waste Disposal**

Method

Is there an approved method for disposal of waste generated by the work?

Labeling

Are waste containers clearly, indelibly, and accurately labeled with all contents and hazards?

Segregation

Are incompatible wastes kept segregated?

Containers

Are suitable containers with adequate closures available?

Recycling

Is it feasible to safely recover/recycle used chemicals?