

## **PRESENTER'S GUIDE**

# **"ORIENTATION TO LABORATORY SAFETY"**

**Part of the Laboratory Safety Series**

**Quality Safety and Health Products, for Today... and Tomorrow**

## **OUTLINE OF MAJOR PROGRAM POINTS**

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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **Safety in the laboratory is important.**
  - The laboratory can be a dangerous place.
- **We all seem to have an overwhelming urge to do the "wrong" thing while working.**
  - Tend to take shortcuts.
  - Often ignore safety precautions.
- **It is important that you learn laboratory safety rules.**
  - There is a great deal you should know.
  - Your supervisor/safety instructor will help you.
- **Types of safety considerations and issues you may be dealing with include:**
  - Safety Data Sheets (SDSs).
  - Your facility's "chemical hygiene plan".
  - Biologically infectious materials.
  - RCRA and TOSCA.
  - Lock-out/tag-out.
  - Respiratory protection.
  - Fire safety.
  - First aid and CPR.
- **An instructor and written plans are only "sources" of safety information.**
  - The ultimate responsibility lies with you.
- **Plan experiments carefully.**
  - Assemble all materials.
  - Get SDSs as well.
  - Select proper personal protective equipment.

- **Personal protective equipment is especially important.**
  - Know where to find it.
  - Know which areas require it.
- **Eyewear is an important type of protective equipment.**
  - It ranges from safety glasses to face shields.
  - Wear the type or combination right for the job.
  - Remember, street glasses are unacceptable.
- **Lab coats are also personal protective equipment.**
  - They can shield you from accidental splashes.
- **Selecting proper gloves is important, too.**
  - Choose them according to the hazards involved.
  - Consult the SDS for recommendations.
- **An air-purifying respirator may also be needed.**
  - You must be properly instructed to use one.
  - The respirator should be fit tested.
  - An improperly fitting respirator will not protect you.
- **Self-contained breathing apparatus (SCBA) can also be used.**
  - They are very sophisticated equipment.
  - They should not be used unless you have been trained on them.
- **Safe shoes are also important in the lab.**
  - Don't wear shoes with "open toes."
  - Safety shoes may be required.
- **Check all PPE before using it.**
  - If it is cracked or worn, discard it.
- **Remove PPE before leaving your work area.**
  - Also wash your hands (this limits the potential for contamination).

- **Know how to work safely with your laboratory equipment.**
  - Check each piece before setting up.
  - It must be clean and in proper working order.
  - Cracked glassware must be replaced (pressure could shatter it).
- **If your procedure requires specialized equipment/containers, find them.**
  - Makeshift substitutes can be dangerous.
- **Keep the lab area clean and clutter free.**
  - Report/correct any unsafe conditions or actions.
  - Misplaced equipment/furniture can cause slips and falls.
- **Utilize proper local ventilation controls, such as lab hoods.**
  - Used correctly, air flow effectively confines and removes released vapors.
  - Test hoods to make sure air flow is working.
  - Select the right type of lab hood for your procedures (for instance, biological safety cabinets can confine potentially infectious aerosols but might not work well for chemicals).
- **Know proper working procedures for your hoods.**
  - Work at least six inches inside the hood.
  - Keep the sash as low as possible.
  - Never interfere with the air flow.
- **Proper chemical storage is very important.**
  - Don't use bench-tops or hoods.
  - Improperly stored containers are easy to knock over.
- **Flammables require special consideration.**
  - Collect small quantities in UL listed containers (with spring-loaded caps).
  - Place amounts greater than one liter in flammable storage cabinets (remember to lock the door).

- **Regulations exist for the safe use of compressed gas cylinders.**
  - They should be located away from sources of flame or sparks.
  - They should be strapped to benches, when they are positioned close to them.
  - Consult your supervisor regarding the number of cylinders that can be safely stored in your lab.
- **All chemical containers must be correctly labeled.**
  - This identifies the contents for all users.
  - Make sure to write out (not abbreviate) proper names.
- **Know your company's policy on handling chemical and infectious waste.**
  - Plan for its disposal before you begin experimentation.
  - A disposal mistake could cause severe problems.
  - Ask your supervisor or safety professional if you have questions.
- **You should know what to do in case of a laboratory accident.**
  - Dial 911?
  - Alert on-site emergency responders?
  - Learn your evacuation routes.
  - See your instructor regarding emergency systems and fire alarms.
  - Know the location of emergency equipment.
- **You should also be prepared to deal with chemical spills.**
  - If the spill involves a flammable substance, turn off sources of ignition.
  - Know correct cleanup procedures.
- **Eye washes and safety showers are important if you can be splashed.**
  - Flush affected areas for at least fifteen minutes.
  - Report the incident.
  - Call for medical help.

- **Coming into a new lab can be stressful and exciting.**

**There are always:**

- New materials to deal with.
- New procedures to learn.
- New people to meet.

- **With it all, you must do your best where safety is concerned.**

- If you have a question, find out who to ask.
- Get it right... from the start!