

MAJOR PROGRAM POINTS

"ORIENTATION TO LABORATORY SAFETY"

Part of the "LABORATORY SAFETY SERIES"

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

Outline of Major Points Covered in the "Orientation to Laboratory Safety" Course

The following outline summarizes the major points of information presented in the course on "Orientation to Laboratory Safety". The outline can be used to survey the course before taking it on a computer, as well as to review the course when a computer is not available.

- **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:**
 - Material Safety Data Sheets (MSDS).
 - 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 MSDS's 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 MSDS 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!