

Laboratory Safety

COMMON LABORATORY SAFETY PRACTICES

General Safety Principals

Read material safety data sheets and container labels.

Do not work alone.

Avoid horseplay, or other behavior that can lead to accidents.

Wear eye and face protection and impervious aprons. As a minimum safety glasses are required all the times.

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Avoid tasting or smelling hazardous chemicals.

Be familiar with the location of emergency equipment, fire alarms, fire extinguishers, emergency eyewash and shower stations and know the appropriate emergency response procedures.

Health and Hygiene



Confine long hair and loose clothing and always wear footwear which fully covers the feet.

Do not use mouth suction to pipette chemicals, a pipette bulb or aspirator should be used.

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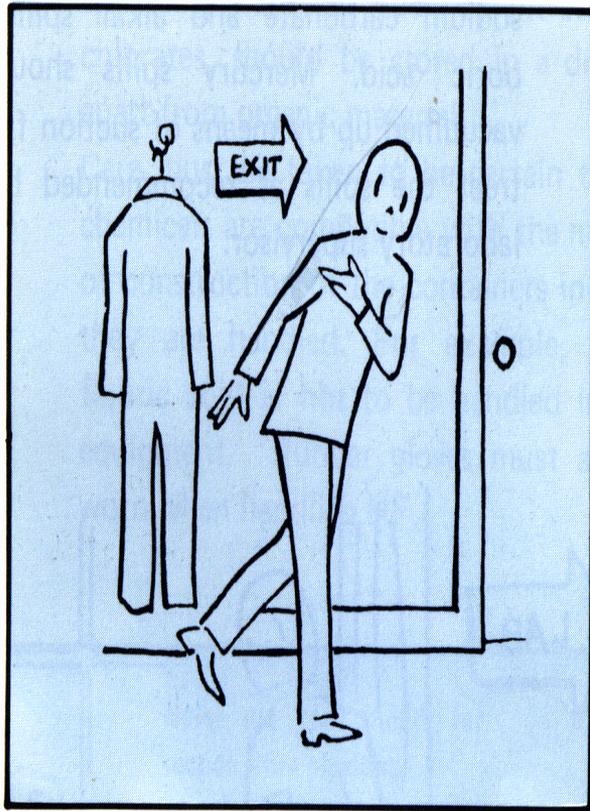
Do not wear contact lenses around toxic vapors.

Do not use lab glassware for eating or drinking.

Wash hands well before leaving the laboratory area.



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Remove lab coat prior to leaving the lab for lunch or coffee breaks.

Toxic operations should be conducted in lab fume hoods.

Do not use solvents for washing the skin it causes dermatitis.

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Do not eat, drink, smoke, chew gum, or apply cosmetics (makeup) in the lab. Never store food in chemical refrigerator or chemicals in a food refrigerator.

Do not keep food, food containers, or drinking glasses in areas with chemicals.

Good Housekeeping

Keep work areas clean and uncluttered with chemicals. Clean up work areas including floors.



Do not block exits or other emergency equipment.

Separate waste receptacle for non-contaminated glass.

Chemical Handling and Storage



Storage chemicals at the lab bench or other work areas shall be kept to a minimum.

Never open pressurized vessel (autoclave, etc.) until pressure has been fully released.

Pour more concentrated solutions (acids) into less concentrated solutions (water) to avoid violent reactions.



Glassware



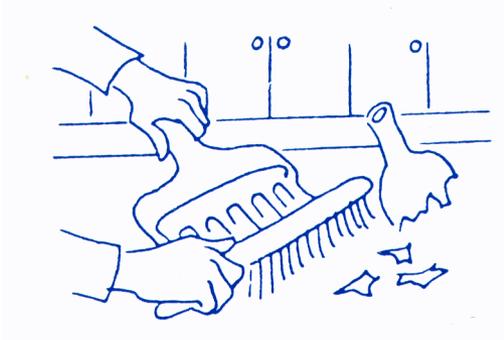
Inspect glassware before use.

Do not put a vacuum on a glass vessel unless it is designed for vacuum services.

Glass vessels under vacuum should be guarded by a shield/ or placed in a hood.

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Do not dispose of broken glassware in the waste paper receptacle; use designated container.



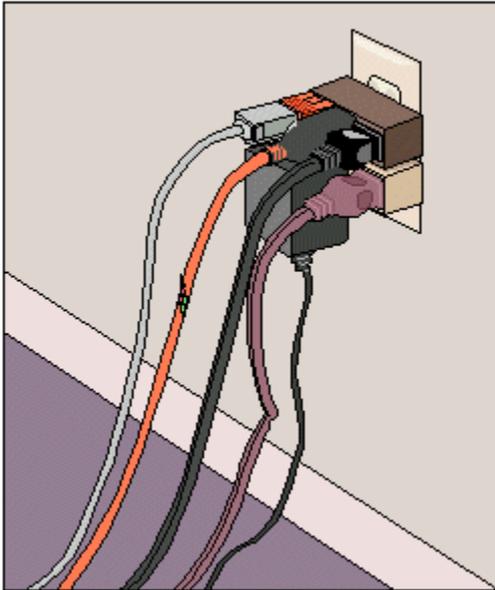
Do not pick up broken glass with bare hands. Use gloves, paper towel and sweep small pieces into a dust pan.

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Use adequate hand protection when placing any tubing on glass hose connections. Use plastic or metal clamps to secure the connection where possible. Lubricate the tubing with soapy water or glycerin to facilitate insertion.

Electrical Safety



Inspect equipment frequently.

Keep equipment away from water.

Do not overload electrical outlets or extension cords. If a cord feels warm, disconnect it and do not use.

Mercury Spills

Mercury spills, usually the result of thermometer breakage.

Mercury spills in lab sink must be cleaned up thoroughly to prevent wastewater.

Most small spills can be cleaned up with the aid of a mercury spill kit.

In Case of Mercury Spills

Isolate the area.

Wear gloves, lab coat, and safety goggles.

Spilled mercury droplets can be aspirated by a capillary tube connected to a pump,

Apply zinc dust to the spill area which converts the mercury into less hazardous residue (Zinc-mercury amalgam) that can be picked up by conventional means..

Chemical Spills



Warn personnel, if flammable turn off flames.

Remove contaminated clothing and use emergency shower.

Use proper PPE (gloves, goggle, mask)

Contain the spill.

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Stop the spill or leak, or contain it in a clean empty container.

Keep spilled materials out of drains and water supplies.

Start to place absorbent materials at the edge of the spill.

Pour the suitable neutralizer material.

Wash the affected area.

Waste Disposal

Small quantities of acids or alkalis may be disposed of by slowly pouring them into a stream of water and flushing them down to drain with large quantities of water.

Waste solvents should be placed in safety cans (labeled).

Chlorinated solvents should be placed in separate containers.

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Dry chemicals should be placed in an appropriate container (drum) labeled “waste chemicals for disposal”

Store all containers of hazardous waste in the appropriate location.

Bottles containing immiscible organic solvents must be washed initially with acetone, methanol before water washing.