

**Note:** If you are indifferent towards safety you will put us all at risk !  
It is important that you are interested in safety, want to stay healthy, and care about your coworkers.  
Give safety high priority, be involved, proactive, and creative – everybody counts on you.

3/05/2013

## **SAFETY WATCH LIST: Remember the BASICS**

### **General**

- You are responsible for safety and a safe work environment
- It is your right and duty to stop any unsafe work at LBNL
- In all cases do Integrated Safety Management (ISM)
- Be familiar with the emergency response guide and other important contacts
- Before you start satisfy your basic needs: get space, light, time, tools
- Wear and use the required Personal Protective Equipment (PPE)
- Read the labels and information on lab doors and inside the labs
- Work with a partner whenever possible (esp. in a hazardous environment)
- Respect the no food/no drink signs in the work areas
- Stop your work if you are in doubt – ask people for help or clarification
- Avoid generating trip hazards – keep aisles free
- Clean up after you are done (especially put back chemicals, glues, sharp tools...)
- Inform others about hazards and test setups (use labels, write emails...)
- Read the labels, warning signs, procedures, manuals, MSDS before you start using the tools, equipment, and devices

### **Seismic**

- Secure heavy items which are taller than 3 feet
- Secure heavy items which are stored higher than 3 feet
- Prevent carts and crates on wheels from involuntary motion
- Secure gas bottles and liquid nitrogen reservoirs (leaving the gas bottle in the cart may be an option; however: block the wheels of the cart)

### **Electrical**

- First: ground the device – second: start water or fan cooling and check it
- Do not daisy chain (incl. combining extension cables)
- Check heating tapes for broken insulations before you use them
- Stay 3 feet away from the device in case of spark tests/open boxes under voltage
- Do not touch energy sources (batteries, decoupling boxes, voltage dividers...) with >50V AND >5mA

### **Pressurized Gas**

- Do not transport gas bottles in cars or trucks
- Do not store Acetylene (or any other dissolved liquid) bottles horizontally
- Toxic gases have to go into a gas cabinet
- Use a fan at the regulator for flammable gases (H<sub>2</sub>, CH<sub>4</sub>...)
- Perform a leak test of the gas system before first use
- Before use: check valves, gaslines, and regulator before opening the gas bottle
- Never break the gasline of a toxic gas bottle before it is disconnected at the regulator IN the gas cabinet

## **Chemical**

- Treat your immediate environment, tools, and hands as contaminated before, while, and after your work
- Clean up before you start working and after you are done to avoid unwanted reactions
- Always segregate incompatible chemicals and gases
- Use gloves of the right size and appropriate material and safety glasses
- Use gloves, safety glasses, long pants, and lab coat when handling special and toxic chemicals (other than solvents, soaps, or cleaners)
- Throw away used gloves
- Put the chemical waste in Satellite Accumulation Areas (SAAs) and inform the SAA manager

## **Soldering**

- Use a fan to deflect the fumes
- Use safety glasses to protect your eyes from splashing hot flux
- Use gloves (if convenient) to protect your hands from splashing hot flux
- Wash your hands in case you touched lead based tin

## **Cryogenic and Heating**

- Wear safety glasses + face shield, cryo gloves, long pants, and close-toed shoes when dispensing LN2 at a pressurized dewar
- Wear safety glasses, (nitril) gloves, long pants, and closed toe-shoes when transporting LN2 in an open dewar and while filling the cold trap
- Wear gloves when installing heating tapes to prevent itchy skin from fibers
- Beware of all hot and cold surfaces (incl. chamber, pumps, gas lines, funnels...)

## **Noise**

- Use ear plugs and ear muffs whenever possible
- Beware of the pressurized air outlets in the labs (they are louder than >100dB)

## **Ergonomics**

Office:

- Get the right chair – sit straight – have a knee angle of 100deg
- Your monitor should be one arm length away
- Adjust the monitor height so that the top edge is equal to your eye level
- Try to minimize the glare on the monitor
- Don't bend your wrists – consider supports for your wrists and arms
- Use the most convenient keyboard and mouse
- Change position frequently
- Take frequent breaks

Lab:

- Avoid heavy lifting whenever possible
- Work in teams – use tools (crane, lab jack, carts....)
- Lift with your back straight – use your knees
- Make use of step stools, ladders, scaffolds....
- Be aware of changing loads and sharp objects in your way while working