

Chemical Safety Checklist

- Chemicals are defined as any material that is not a common household item.
- The Materials Safety Data Sheet (MSDS) is a convenient, condensed source for information on the properties of any chemical.
- All users are expected to read the MSDS of every chemical that they use in the lab.
- Materials Safety Data Sheets for all chemicals approved for use in the laboratory are available in a binder in the gowning room.
- Only specifically authorized chemicals may be used in the laboratory; no user may bring any chemical into the lab.
- Compressed gas equipment in the facility is not user serviceable.
- Spilled solvents can react explosively with chemical oxidizers present, e.g., peroxides, nitric acid.
- Spilled solvents should be contained immediately with spill control pillows.
- Environmental Health and Safety should be called for emergency response and to assist in clean up.
- Hydrofluoric acid, HF, presents a significant hazard for personal injury and death.
- Piranha Etch is not allowed in the NLB.
- At no time are users allowed to carry chemicals into or out of the facility.
- All chemical containers moved outside of a hood must be sealed with a screw top lid.
- Open containers or containers with unattached lids may not be carried around the lab, even if they only contain water.
- Users must not open a new bottle until the old one is empty. When a chemical bottle is emptied, it must be thoroughly rinsed before disposal.
- At the Lithography Hood, users are required to use purple or green nitrile gloves.
- At all of the general chemistry hoods, the required Personal Protective Equipment (PPE) is a face shield, a nitrile apron, and the thick nitrile gloves (overtop the standard cleanroom gloves).
- When putting on or removing the PPE, the nitrile gloves should be the last item put on and the first item removed, to prevent transferring any chemical residues to the face shield or apron straps.
- The PPE should not be worn except in the immediate area of the chemical hood. Wearing the PPE around the lab will lead to transferring chemical residues into non-chemical areas of the facility.

- The hoods are limited in size and only one person is allowed to use the hood at a time.
- Users working in the General Chemistry Hoods are required to have a chemical buddy present in the lab.
- Before starting work with a chemical in a hood, users should check the hood for the appropriate waste bottle for materials they will be working with. If the waste bottle is full, a new waste bottle should be created before starting the work.
- Users may not arbitrarily mix chemicals together in the facility. Only specifically approved solutions can be made.
- All containers are required to have covers on them.
- All chemical containers are required to have labels on them that clearly identify the contents. The label must be clearly printed with the full chemical name, the user's full name, and the date.
- Be careful when pouring chemicals, as this is the most common time for spills or accidents.
- Users should plan out their work when they place the containers in the hood. Users should make certain that they don't need to carry a wafer dripping with chemicals over the length of the hood to get to the sink to rinse it.
- Be sure to take time and be careful with the chemicals. Not only will this help in producing good research, but it will also make the process safer.
- Avoid distractions while working at the hood. Do not take or make phone calls or engage in distracting conversations with other users. Focus on the work that is being performed.
- The hotplates in the lithography hood should only be used for the baking of resist on substrates and should be turned off upon the completion of work.
- Once a user is finished with chemicals in a hood, the chemicals should be disposed of in the appropriate waste bottle
- Chemicals should not be left in the hood for long periods to be reused by the researcher.
- No chemical waste is to be poured down the drain.
- All waste labels for the waste bottles are prepared by the NLB staff.
- Do not overfill the waste bottles as this makes them more dangerous to handle.
- Any unusual reactions with the waste or bottles showing signs of a secondary reaction (bubbling in the waste, pressurized bottles, etc) should be reported to the staff immediately.

- Only the original chemical mixture should be poured into the waste bottle.
- In an emergency dial 911.
- Spill control pads are placed in each hood in the lab.
- An emergency shower and an eye wash are located next to the door.
- A first aid kit is available by the door in the gowning room.
- Any major chemical exposure should be reacted to immediately by using the chemical safety shower. Other users should use the emergency phones to contact EH&S and/ request medical assistance for a chemical exposure.
- Users are primarily responsible for cleaning up any minor chemical spill they caused, using safe and approved procedures.
- Users should request assistance from Environmental Health and Safety and the staff for any significant spill. Dial 911 and request assistance.
- In all cases except for the smallest incidental spills, users should notify the NLB management after the situation is resolved.

Print Name

Signature

Date