Stanford | Environmental Health & Safety

LAB COMPLIANCE CHEAT SHEET

While not inclusive, the following items are lab violations commonly cited by Santa Clara County during hazardous materials inspections. **For questions, please call us at (650) 723-0448.**

HAZARDOUS CHEMICAL WASTE DISPOSAL

Drain disposal	• If you are unsure whether a material is drain disposable or trash disposable, check https://ehs.stanford.edu/reference/list-non-hazardous-chemical-wastes or contact EH&S at https://ehs.stanford.edu/contact o If the material is poured down the drain and is later determined to be hazardous, that is illegal disposal. Don't do it!
Waste label and disposal	• Waste tags must be attached to hazardous chemical waste containers when the first drop of waste is collected. o Waste tags are created using the **Online Waste Tag System** at http://wastetag.stanford.edu • Waste containers must be kept closed except when adding waste. o Funnels must be removed after use and the waste container immediately recapped. • Submit a waste pickup request when container is full or if it has been eight months past the accumulation date at http://wastetag.stanford.edu. o For waste tags not generated using the Online Chemical Waste Manager, submit an online pickup request through http://wastepickup.stanford.edu
Spill debris	• Rags and towels used to clean up hazardous material spills, including vacuum pump oil, become hazardous waste and must be disposed of as such. Do not throw into the regular trash. o On a waste tag, these can be described as "solids contaminated with (chemical name)".
Empty container management	• Empty Containers Disposal: o Use the "three shakes" rule to determine if a container is completely empty. ▪ Invert the container over an appropriate hazardous waste container, shake three times, and wait several seconds after the last drop is seen. For solids and viscous materials, scrape the container to remove any residue. o Once the container is empty, it can be tossed into the trash or recycling bin UNLESS it is an "extremely hazardous waste" or an "acutely hazardous waste" ▪ https://ehs.stanford.edu/reference/list-extremely-hazardous-wastes ▪ https://ehs.stanford.edu/reference/list-acutely-hazardous-wastes ▪ https://ehs.stanford.edu/forms-tools/empty-container-decision-tree • No evaporation of waste!
Non-contaminated broken glass	• Check that non-contaminated broken glass collection boxes only contain glass. Make sure that there are no liquids in bottles, gloves, or trash.
Solder waste	• Solder waste should be treated as hazardous waste. See: https://ehs.stanford.edu/reference/soldering-safety-reference-sheet

CHEMICAL STORAGE AND LABELING

Secondary container	• All hazardous chemicals must be stored in secondary containment and segregated according to chemical compatibility. o Example: Containers of bleach (storage group E), ammonia (storage group C), and ethanol (storage group L) must be in separate secondary containment.
Container type	• All chemical containers must be structurally sound and tightly capped. o Leaks into secondary containment must be cleaned up immediately (example: standing oil from a leaking vacuum pump).

Labels	• All containers must be labeled with their full chemical name in English (example: label “methanol” and not “MeOH”).
	  o Exceptions to this rule:
	  ▪ If the container holds a nonhazardous buffer with pH 5.5-11, you may use the buffer abbreviation (example: PBS, TRIS, TBS).
	  ▪ If the contents are a manufactured product with a trade name, you may use the trade name (example: Zaclon ZR flux).
	• If you plan to reuse a chemical, label the container “for reuse” next to the full chemical name (example: acetone – for reuse). Do not use the labels “Dirty” or “Used”.

Flammable storage	• Store flammable liquids in flammable cabinets in secondary containment.
	  o In some areas, the California Fire Code permits storage of small quantities of flammable liquids outside flammable cabinets.
	  ▪ Contact the Stanford University Fire Marshal’s Office for additional guidance.

GASES

ChemTracker	• All compressed gas cylinders and liquefied gas dewars must be listed on the online chemical inventory system (ChemTracker) for the room in which they are stored. o The reported amount must be the size of the gas cylinder or dewar.

Restraint	• Gas cylinders >26” tall must be restrained by metal chains at 1/3 and 2/3 of the cylinder height.
	  o A maximum of two cylinders can be restrained using the same set of chains.
	  o This applies to in-use, stored, and empty cylinders.
	• Dewars and cryotanks must be restrained at a minimum of one point.
	  o This applies to in-use, stored, and empty dewars and cryotanks.

INSPECTION RECORDS

Quarterly self-inspections	• Make sure you have at least three years’ worth of quarterly self-inspection records either uploaded to BioRAFT or hard copies.
Monthly hazardous storage inspections	• Make sure you have at least three years’ worth of monthly hazardous storage inspections either uploaded to BioRAFT or hard copies.

EMERGENCY EYEWASHES & SAFETY SHOWERS

Access	• Do not store boxes or equipment adjacent to or under eyewashes and safety showers. o This presents a danger to all lab personnel should anyone need to access the eyewash or safety shower during an emergency.
Testing and maintenance	• For Stanford University laboratories, the Stanford Plumbing Shop tests all campus eyewashes and safety showers monthly. • For Stanford School of Medicine laboratories, the Facility Operations group in the Office of Facilities Planning and Management (OFPM) tests eyewashes and safety showers.

REFRIGERATORS & FREEZERS

Storage	• Flammable and combustible materials must only be stored in refrigerators and freezers rated for flammable storage. o Household refrigerators and freezers are not designed and are not approved for this type of storage. • Incompatible hazardous materials stored in refrigerators and freezers, including in their doors, must be segregated and secondarily contained according to their storage groups.

ETHIDIUM BROMIDE AND GELS

Ethidium bromide waste	• If the ethidium bromide solution you use is over 4 mg/ml (0.4 weight percent), it must be handled as hazardous waste. • Know the concentration of the ethidium bromide you work with; you may be asked this by an inspector.
Gels	• If a gel has less than 0.4 weight percent of ethidium bromide, it can be disposed of in the trash.

UNIVERSAL WASTE (BATTERIES, LAMPS, E-WASTE)

Fluorescent and UV lamps	• Fluorescent and UV lamps are considered universal waste and cannot be thrown into regular trash or broken glass boxes. Contact your building's facilities coordinator for disposal.
	  o Place in a hard-sided container, label as "universal waste," identify what the contents are, and indicate the date that you are designating it as waste.
	  o The lamps must be removed from labs no more than nine months past the date you first designated them as universal waste.

Labels	• Universal waste labels may be obtained from EH&S.