

Toxic Chemicals

Audience:	University of Connecticut
Campus Covered:	All
Reg. Citations:	OSHA Lab Standard
Last Revised:	March 2000

The MSDSs for many of the chemicals used in the laboratory will state recommended limits or OSHA--mandated limits, or both as guidelines for exposure. Typically limits are Threshold Limit Values (TLV), Permissible Exposure Limits (PEL), and action levels. When such limits are stated, they will be used to assist the chemical hygiene officer in determining the safety precautions, control measures and safety apparel that apply when working with toxic chemicals. The following are meant as guidelines only. When an overexposure is suspected, call EH&S for possible air monitoring.

- When a TLV or PEL value is less than 100 milligrams per cubic meter of air, the chemical should be used in an operating fume hood, glove box, vacuum line, or similar device.
- If a TLV, PEL, or comparable value is not available for that substance, the animal or human median inhalation lethal concentration information, LC_{50} should be reviewed if available. If that value is less than 2000 mg/m^3 (when administered continuously for one hour or less), then the chemical should be used in an operating fume hood, glove box, vacuum line, or similar device, which is equipped with appropriate traps and/or scrubbers.
- Whenever laboratory handling of toxic substances with vapor pressures likely to exceed air concentrations limits, laboratory work with such liquids and solids should be conducted in a fume hood, glove box, vacuum line, or similar device.

Recommended values from the American Chemical Society. See the MSDS for LC_{50} information.