

Appendix A:

Guidelines for Calculating Limits on Flammable Liquid Storage in Campus Laboratories

The information below is being provided as a supplement to the Flammable Liquids – Safe Work Practices in the Laboratory guidance document. It is to be used as a guideline in estimating acceptable volumes of flammable liquids and liquefied gases stored in laboratories on campus. The approach taken below is a “rule of thumb” appropriate for screening labs for excessive storage of flammable liquids. If a more detailed evaluation of your laboratory unit(s) is needed or you need assistance in evaluating storage options, email ehs_labsafety@utk.edu for assistance.

Definition of Lab Unit – Each contiguous space under the authority of a single Principle Investigator (PI).

Assumptions:

- Lab units are classified as Class C
- All flammable liquids are Class 1A

Does your laboratory contain greater than or equal to 4L (~1 gal) of flammable or combustible liquid, or does your laboratory unit contain more than 75 standard cubic feet (scf) of flammable gas, not including piped-in low-pressure utility gas installed in accordance with NFPA 54, National Fuel Gas Code?

If Yes:

- You may store 2 gallons of flammable liquids outside flammable cabinets and safety cans per 100 square feet of lab unit space.
- You may store 4 gallons of flammable liquids per 100 square feet of lab unit space if half of it is stored inside flammable liquid storage cabinets or safety cans
- You may store no more than 60 gallons of flammable liquids inside any one flammable liquid storage cabinet

If No:

- This guidance does not apply

(over for additional guidance)

Does your lab have a sprinkler system?

If Yes:

- You may store no more than 150 gallons of flammable liquids inside flammable cabinets and safety cans regardless of the total square footage of your lab.
- You may store no more than 150 gallons of flammable liquids outside flammable cabinets or safety cans regardless of the total square footage of your lab.
- You may store no more than 300 gallons of flammable liquids in the lab unit regardless of the total square footage of your lab.

If No:

- You may store no more than 75 gallons of flammable liquids inside flammable cabinets and safety cans regardless of the total square footage of your lab.
- You may store no more than 75 gallons of flammable liquids outside flammable cabinets or safety cans regardless of the total square footage of your lab.
- You may store no more than 150 gallons of flammable liquids in the lab unit regardless of the total square footage of your lab.