



Safety Q and A: You have questions? We have answers!

The STAO Safety Committee

The STAO Safety Committee welcomes enquiries, with respect to safety issues, from STAO members. Please send your questions to the Safety Committee Chair (ralph_chou@stao.org). Your questions and the STAO Safety Committee responses may be published in *Crucible*, particularly if the information is deemed of general interest to other STAO members. Anonymity will be guaranteed.

QUESTION #48: Can I store acids and bases in the same chemical storage cabinet?

RESPONSE: Ideally, it is best to have separate chemical storage cabinets for acids and bases. However, due to the cost of having two cabinets and limited storage space, acids and bases could be stored together. Should the two families mix, you will get neutralization with some heat being generated. Care should be taken to segregate conc. hydrochloric acid from conc. ammonia solution. Also conc. nitric acid and glacial acetic acid should be kept apart.

QUESTION #49: Metal in my chemical storage area is rusting. What's happening?

RESPONSE: Chemical vapors are attacking the metal. Your chemical storage area is in need of ventilation. Good ventilation, even as little as one air change per hour, would dramatically reduce your corrosion problem.

For metal shelf clips, the problem is probably very close by. Look for iodine, iodine solutions or concentrated acids. These are usually the culprits.

QUESTION #50: How should I store reactive metals like sodium, potassium, lithium, etc?

RESPONSE: Reactive metals should be stored in dry mineral oil in an unbreakable bottle. The mouth of the bottle should be wide enough so you can easily obtain the sample. The bottle should be placed in a plastic bag and sealed with a twist tie. The bag and bottle should be placed into a metal paint can and surrounded by cat litter or vermiculite. The metal lid should be firmly secured. Both the outside of the can and the individual bottle should be labeled with the chemical's name, how it can hurt you, and the date purchased.

Always buy reactive metals in as small a quantity as you can. The less you store, the less the potential hazard!

One final note: Some Boards of Education have banned the use of alkali metals in schools, particularly potassium and sodium. Accordingly, teachers should confirm with their Board safety officer that the use of these highly reactive metals is still permitted.

