

SAFETY NEWSLETTER
Chemistry Department, Queen's University
Summer Term 2013

For this newsletter, we present some issues that were found in many labs during the spring's safety inspections.

- **Chemicals that form peroxides over time** pose a risk of explosion. When you purchase such a chemical, write on the label the date of receipt & date of first opening. For the worst peroxide formers (e.g. butadiene, isopropyl ether, vinylidene chloride, potassium metal), either discard it 3 months after opening OR prove by testing for peroxides that it's still safe (re-test every 3 months and mark test dates on the label). For moderate peroxide formers (e.g. thf, dioxane, furan, glymes, Et₂O, cyclohexene, dicyclopentadiene) the timespan is 12 months. Inhibitor/stabilizers slow but don't prevent formation of peroxides. If you find a peroxide former well beyond 12 months old, DON'T OPEN IT. Contact EH&S.

- **Lecture bottles** must be stored standing up. If they contain corrosive or caustic gases (HCl, HF, SO₂, NH₃, etc.) and you store them laying down, they may corrode their valves and rupture.



- **Base baths** must be labeled "flammable" and labeled with the contents (e.g. isopropanol and KOH). Make it safer by putting it inside a flammables rinse tank.

- **Organic acids can't be stored with oxidizing acids:** Use two acid cabinets, one for the *oxidizing acids* (H₃PO₄, H₂SO₄, HNO₃ etc.) and one for the *non-oxidizing acids* (e.g. organic acids, HCl, HBr). Alternatively, you can divide them into *inorganic acids* (H₃PO₄, H₂SO₄, HCl, HBr, etc.) and *organic acids*. Just keep the organics and the oxidizers apart.

- **We don't have base cabinets.** The building has cabinets labeled for acids but no cabinets for bases. Don't put the bases with the acids! Cover over the label on one acid cabinet with a label that says "BASES" and use that cabinet for all of your bases.

- **Waste bottles must be labeled and kept closed.** When you're not working at your fume hood, keep the organic waste bottle closed. Label it clearly (calling it "waste" isn't good enough; try "organic waste" or "aqueous waste").

- **Overnight experiments:** If you are starting an experiment that will run overnight, fill in an overnight form (<http://www.chem.queensu.ca/safetyN/forms.asp>), have it signed by your supervisor or a senior postdoc, put it in a transparent folder adjacent to the fume hood. Security will then know what's going on and whom to call if a problem occurs.

Questions or Concerns about Safety?: If you have any safety concerns or questions, please bring them to the attention of the safety committee chair (currently Philip Jessop, jessop@chem.queensu.ca) or Johann Jardine (building manager, deptmanager@chem.queensu.ca). *Suggestions for the newsletter always welcome.*