

INCIDENT — FIRE, NEW CHEMISTRY BLDG (JUNE 2015)

A researcher finished flame-sealing an ampoule in a chemical fume hood, turning off the torch used and setting it down. While the researcher was storing the ampoule, the hot torch tip ignited a number of lab wipes and rubber stoppers that had been left in the hood, and the cotton insulation on a nearby solvent still containing 1-2L of highly flammable tetrahydrofuran (THF) also ignited.

The researcher tore the cotton insulation off the still and threw it on the floor away from other combustibles, a decision that may have saved the hood from a more serious fire. Another researcher in the lab quickly extinguished the flames in the hood and on the floor with the lab's dry-chemical ABC fire extinguisher.

LESSONS LEARNED

- **Always** clear combustible and flammable materials from a fume hood or other work area before using open flames. This is a basic lab fire safety precaution that should **never** be violated. If you believe have an unavoidable need to use flames near solvents, lab wipes, or other burnable materials, contact [Dan Kuespert, Lab Safety Advocate](#), for help developing alternative safety procedures or re-engineering your experiment.
- Johns Hopkins **requires** that only personnel who have received training approved by the Department of Health, Safety, and Environment may use fire extinguishers. Training is currently unavailable to general lab researchers, but it is in development. (An announcement will be made later this year.)
- If you use open flames in the lab, **ask your principal investigator** whether you should be provided with a flame-retardant lab coat.
- **Insulate stills and other lab apparatus with noncombustible insulation.** Rock or mineral wool and cellular glass are good choices, although they can be difficult to obtain (particularly the latter). Note that most fiberglass insulation contains an organic chemical binder that is combustible.

DISCUSSION QUESTIONS

1. What open flames exist in our lab and what burnable materials are nearby?
2. Has anyone in lab had a mishap with a torch, burner, or open flame? Tell the story and what you learned.