

# The High Pressure Chemistry Facility in the Penthouse of Roger Adams Lab

## Introduction:

The High Pressure Chemistry Facility is located in the penthouse of Roger Adams Lab. It is available 24/7 to trained students who have permission access keys. The lab has two explosion-resistant cells containing large- and small-scale equipment respectively, a small workbench with storage drawers, and an operations panel. It has no hoods, nor any convenient method of manipulating reagents. Some loading and unloading must be done remotely, in a lab. This is especially important for air-sensitive or noxious materials. Students who wish to use the facility should make arrangements with the NMR Director, Dean Olson ([dolson@illinois.edu](mailto:dolson@illinois.edu)). For consistency and safety, we prefer that training is not performed by other students. Anyone who has been trained may use the lab, but each use creates a small charge which must be made against a CFOP account. Documentation of use is mandatory. Access is either by having a key issued, using a group access key, or using the key of another group. All equipment removed from the facility, even briefly, must be checked out. Failure to do this results in a substantial charge.

## General Lab Capabilities

- Stirred or rocked autoclave reactions, with heat to 300 °C
- Custom pressure vessel use on shelf
- Heated Carius tube reactions
- Small scale pressure reactions using a glass liner
- Large scale (up to 4 liters)
- Reactions with two or more gases (e.g. hydroformulations)
- Reaction temperature or pressure tracking
- Low pressure hydrogenator (Parr Shaker)
- Compressor to reach up to 5,000 psi

If you have problems with hydrogenation or special needs, contact the NMR Director ([dolson@illinois.edu](mailto:dolson@illinois.edu)).

More information on the High Pressure Chemistry Facility is available here:

<https://scs.illinois.edu/resources/high-pressurehydrogenation-lab>