Department of Chemistry
Safety Moment of the Month

Handling Explosive Compounds

August 2023

- **Before beginning a reaction:**
  - be sure to identify any explosive commercial chemicals you are using by the manufacturer's container label and SDS.
  - take note of "red flag" chemical nomenclature that may alert you that a potentially explosive functional group is present:

Peroxide	Perchlorate	Azide	Fulminate
Nitro	Nitrate	Azo	Picric/Picryl

  - go through your synthetic process and check for the possibility of forming explosive intermediates/incompatible reagents.

- Have a task-specific Hazard Control Plan for working with explosive compounds.
- Be sure to be properly trained for handling explosive compounds, and fully understand the hazards and risks.
- All work with explosive chemicals in open or closed systems **must be done** in a designated area of a laboratory inside of a **properly functioning** chemical fume hood.
- Emergency irrigation (safety shower, eyewash) must be rapidly accessible.
- Any explosives (commercial or synthesized compounds) must be **properly labeled** with identifiers, date, concentration, and warnings.

(1) https://ehrs.upenn.edu/health-safety/lab-safety/chemical-hygiene-plan/standard-operating-procedures/sop-explosive
(2) https://blogs.iu.edu/sciu/2018/02/16/explosion-laboratory-safety/