# The RAMP Process and Associated Information Tools

### Recognize

- GHS information from the label and Safety Data Sheets (SDS)
- Reactivity data from PubChem LCSS

#### **Assess**

- Write a detailed description of the work to be done
- Review GHS signal words of reactants and products
- Use hazard assessment methods from ACS web site

### Manage

- Understand laboratory ventilation equipment and rates
- Use Personal Protective Equipment (gloves, eye protection, etc.) based on a risk assessment of likely scenarios and manufacturer's compatibility guides

## **Prepare for Emergencies**

- Identify the most likely scenarios
- Locate and understand how to use emergency equipment
- Review institutional emergency plans

### **Protect Your Neighbors and the Environment**

- Manage lab wastes using institutional waste disposal services
- Consider Greener Chemistry opportunities





Forms and ideas to help you organize risk assessments for your laboratory work are available at the ACS hazard assessment web site: http://www.acs.org/hazardassessment

# Assess: Identifying and Evaluating Hazards in Research Laboratories Unusual process risks likely Multiple perspectives required, both for completeness analysis and buy-in · High value on reproducibility Standard Operating SOP is available to serve as source material and. Increasing training Procedure and Level of · Team development required Checklist Effort and Process description Detail shared with a variety . 5 questions answers likely sufficient in the context of the SOP of people, specific to a particular lab · Process concerns also likely Job Hazard Analysis Answering the 5 questions based on a process description GHS information sufficient to identify hazards Control Banding 5 questions guide audience information

## Information on lab incidents in the training:

More details on the University of Minnesota explosion and response: <a href="http://cenblog.org/the-safety-zone/2014/07/more-details-on-the-university-of-minnesota-explosion-and-response/">http://cenblog.org/the-safety-zone/2014/07/more-details-on-the-university-of-minnesota-explosion-and-response/</a>

How a student unintentionally made an explosive at U Bristol: <a href="http://cenblog.org/the-safety-zone/2017/02/how-a-student-unintentionally-made-an-explosive-at-u-bristol/">http://cenblog.org/the-safety-zone/2017/02/how-a-student-unintentionally-made-an-explosive-at-u-bristol/</a>

**Learning from UCLA:** Details of the experiment that led to a researcher's death prompt evaluations of academic safety practices: <a href="https://cen.acs.org/articles/87/i31/Learning-UCLA.html">https://cen.acs.org/articles/87/i31/Learning-UCLA.html</a>

Texas Tech University Chemistry Lab Explosion: <a href="https://www.csb.gov/texas-tech-university-chemistry-lab-explosion/">https://www.csb.gov/texas-tech-university-chemistry-lab-explosion/</a>

Oversight In Transcription Of Written Procedures Causes Explosion: <a href="http://www.depts.ttu.edu/vpr/integrity/lessons-learned/march-2016.php">http://www.depts.ttu.edu/vpr/integrity/lessons-learned/march-2016.php</a>

#### **Contact information:**

- John Baxter, EH&S Program Manager
  - 402-546-6269
  - jtbaxter@creighton.edu
- Mary Duda, Chemical Coordinator
  - 402-546-6404
  - mjduda@creighton.edu
- General phone number: 402-564-6400
- Public Safety
  - Emergency: 402-280-2911Non-emergency: 402-280-2104
- http://www.creighton.edu/ehs
- Research Compliance Office: <a href="https://www.creighton.edu/researchservices/rco/">https://www.creighton.edu/researchservices/rco/</a>

Creighton University Annual Lab Safety Refresher Supplemental Materials 2019-2020

