# ACS and Chemical Safety

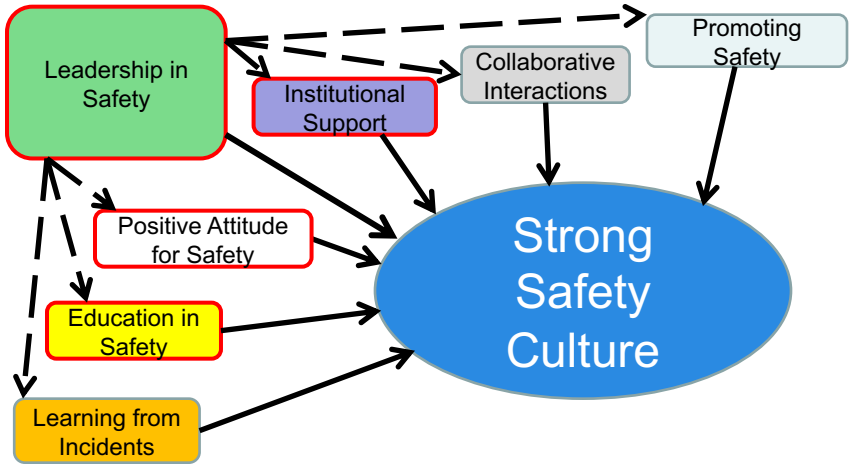
Reaching Students with Disabilities

October 2018

## ACS and Chemical Safety

- **Committee on Chemical Safety**
- **Division of Chemical Health and Safety**
- **Safety integrated into activities of many other ACS units (**Corporation Associates, Division of Chemistry and the Law, Division of Small Chemical Businesses, etc…)
- Many different opportunities for safety activities and conversations.

## Building Strong Safety Cultures

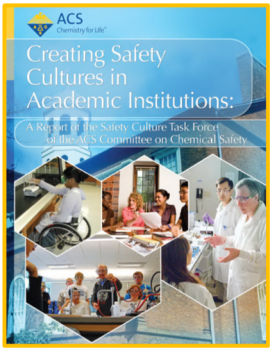




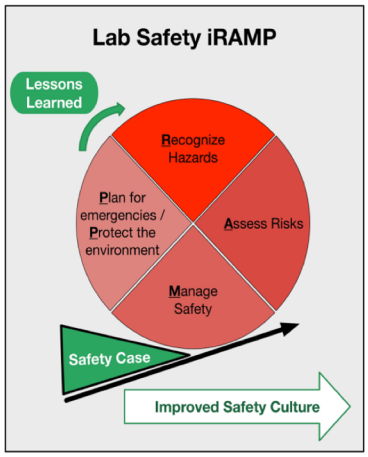

## Creating Safety Cultures in Academic Institutions

**Recommendations**

- Establish lines of authority for safety and develop a safety policy that includes lab safety, safety responsibilities in job descriptions, and performance plans for all employees.
- Encourage every leader to become a proponent of safety and safety education, and to demonstrate this care for safety in their actions with other staff members and students.
- Establish a strong, effective safety management system and safety program for the institution, including lab safety.



## Moving from Rules to Reasoning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## Hazard Analysis

- Many people consider it to be common sense, but it isn't.
- Hazards analysis is something that must be taught.
- Some groups are very protocol- or rule-driven, so they skip the analysis.
- We teach the scientific method, but not analysis of hazards.
- Evidence supports that the concepts are not well-understood.

## Identifying and Evaluating Hazards in Research Laboratories

- Written for researchers for implementation in a scientific research laboratory.
- Considers the variable nature of research.
- Presents assessment approaches that are intended to be relatively easy to implement and use.
- While research laboratories and researchers are the primary audience for this guide, other readers may find it equally useful.

HAZARD ASSESSMENT In Research Laboratories

www.acs.org/hazardassessment



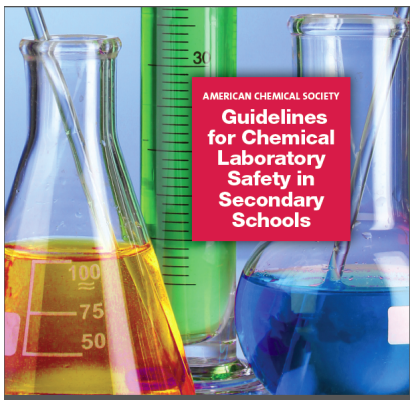
## ACS Safety Education Guidelines

- Emphasize the importance of integrating safety education throughout entire chemistry education
- Provide guidance on the expected students" knowledge, skills, attitudes and competencies in the area of chemical safety
- Organized around the concept of **R.A.M.P**. – an acronym for the Four Principles of Safety: **R**ecognize the hazard, **A**ssess the risk of the hazard, **M**inimize the risk of the hazard, and **P**repare for Emergencies

## Safety Education Guidelines

ACS Chemistry for Life™

- Download at www.acs.org/safety







## ACS Contributes

ACS Chemistry for Life™


- **Safety in Academic Chemistry Laboratories**
  8th Edition
  Best Practices for First- and Second-Year University Students

- A content shift from safety based primarily on rules to learning about safety through RAMP principles
- Basic safety information in the context of developing safety culture
- Common personal protective equipment and various safety practices in laboratories
- Chemical hazards, how to recognize them , and source of information about chemical hazards, including the GHS.
- Safety concerns for many common laboratory techniques
- Safety equipment and emergency response for fires , spills and chemical exposures

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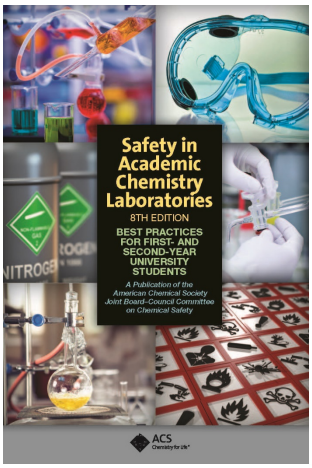


**Download at www.acs.org/SACL**

**Purchase at www.acs.org/store ($10 per copy)**

American Chemical Society 12

# Safety is the ACS Core Value

**In December 2016, the ACS Board of Directors identified "Professionalism, Safety, and Ethics" as a core value of the Society.**

We support and promote the safe, ethical, responsible, and sustainable practice of chemistry coupled with professional behavior and technical competence. We recognize a responsibility to safeguard the health of the planet through chemical stewardship.



## Current Projects

- **2019 Safety Education Summit**

The goal of the summit is to provide the ACS with actionable strategies regarding needed ACS resources and programs related to laboratory safety education.

- **Safety Videos**
- **E-Learning ( Dow grant)**
- **Journal of Chemical Education special safety issue**
- **www.acs.org/safety website update**
- **Safety - Green Chemistry Collaborations**

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## Safety Videos

In collaboration with the Office External Affairs and Communications and AACT– six high school safety videos:

1. Big picture of safety- culture of safety- safety mindset.
2. Preparing for safety – lab tour
3. How to use Safety Data Sheets
4. Overview of Personal Protection Equipment
4. Guide to using RAMP
6. How to set up the experiment



## Chemical Safety E-learning

**MODULE TITLES**

1.Chemical hazards
2.Hazard Assessments
3.Personal protective equipment (PPE)
4.Engineering controls / ventilation/ physical hazards
5.Toxicology
6.Waste management
7.Emergency response
8. Safety when scaling up a reaction
9.Safety culture
10.Regulatory considerations

**More information about ACS Safety Resources:**

www.acs.org/safety

**Questions:**

safety@acs.org