

# **US safety initiatives as influences on global laboratory safety**

The background image is a composite. The left portion shows several glass test tubes filled with a yellow-orange liquid, arranged in a row and slightly out of focus. The right portion is a grayscale image showing a chromatogram or electrophoresis gel with a prominent, sharp peak or band.

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## **English is the language of science**

- More than three-quarters of scientific papers today are published in English—and in some fields it is more than 90 percent
- As the world's largest organization of scientists, the American Chemical Society has a responsibility to be a leader in the field of chemical safety

# What does lab safety look like internationally?













## **What is necessary for good lab safety practice on a global scale?**

- Resources
  - Engineering equipment
  - PPE
- Training
  - Safe procedures / best practices
  - Hazard/risk assessment
- Safety Culture /attitude



# **Regulatory Considerations/ US Government Resources**

- US Occupational Safety & Health Administration
  - Applies in US; procedures also followed at many US facilities abroad, including appointment of a Chemical Hygiene Officer
- National Research Council
  - Prudent Practices in the Laboratory
  - Chemical Laboratory Safety and Security Toolkit
    - Committee on Promoting Safe and Secure Chemical Management in Developing Countries





# American Chemical Society

- Committee on Chemical Safety
  - Safety in Academic Laboratories, 8<sup>th</sup> edition
    - Translated into Spanish and Arabic and readily available online
- Division of Chemical Health & Safety
  - Listserv available internationally; members in 33 countries
- Pending online lab safety certificate program to prepare graduates for safety requirements in industry

# Other US Organizations





## **Safety procedures that translate well globally**

- Hazard identification
- Worst case scenario studies
- Chemical Safety Levels
  - To establish engineering & PPE requirements
- Hazard/risk tools
- Collaboration is important!



# Thank you!

## References

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- 3. International attitudes towards lab safety, Berkeley Science Review (<http://berkeleysciencereview.com/lab-safety-data/> - accessed 1/4/2018)
- 4. Chemical & Engineering News, January 22, 2018, *US Dominance in Science and engineering is waning*, Andrea Widener