Case studies and chemical safety improvements

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Personal background  
(NOT TO SCALE)

2005-2010

PhD in Chemistry

Aug 2010-May 2011

Adjunct

Aug 2011-Dec 2019

Non-Tenure Track
Teaching Professor

Jan 2020-Sep 2021

Sep 2021-Present

Senior Safety Advisor, Columbia University

Associate Manager, Columbia University
The appeal of storytelling

- Transmit information & show humanity
- Train others and communicate obligations
- Communicate organizational schemas
- Allows for reflection

- Effective stories:
  - Authentic
  - Conventional
  - Client-oriented

As a Teaching Assistant: Personal exposures

\[ \text{Chemical Structures} \]

1. O\text{-carboxylic acid}
2. Phenol
3. Phenol
As a Teaching Assistant: Personal exposures
As a Graduate Student: Fires

\[
\text{PhOH} \quad 1. \text{NaH} \quad \text{Cl}{\text{C}}\quad 2. \text{PhO}{\text{C}}\text{C}
\]
As a Graduate Student: Fires

R A M P

Columbia University
Environmental Health and Safety
Lessons Learned

As a Teaching Professor

• Stronger safety culture
  – Empowerment
  – Communication
  – Training & education with storytelling
• Building safety into the curriculum
• Routinization of controls

As a Safety Professional

• Stronger safety culture
  – Non-punitive communication about incidents
    • Santayana reports (stories)
• Thoughtful planning that can include EH&S
Acknowledgements

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Images from Wikimedia Commons

- NaN powder image by И.С. Непоклонов
- NaOH pellets
- Eyewash shower by Atlantic Training