



Relevant Content, Positive Attitude, and Memorable Presentation

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Outline of Topics

- Relevant content – Does the audience see a value in the training?
- Positive attitude – Do you believe this training is important?
- Memorable Presentation – Will people remember training after a week, a month, for years?

Relevant Content

- Present relevant information at the appropriate level.
- Know your audience. What do they know coming into the training session?
- Chemist has a tremendous advantage in presenting technical material to other chemists. We can determine what the relevant content is.
- Relevant content can vary with audience: chemists and engineers; technicians; students; administrative staff; maintenance staff.

Methylene Chloride - Carcinogen

- EHS professional gave me his slides (2 carousels).
- Chemical and physical properties – 1 or 2 slides
- Use SDS information if helpful.
- Common consumer and industrial uses – explain OSHA concern with exposure.
- “Tell me something I don’t know.”

Positive and Proactive Attitude

- Know the appropriate safety policies, procedures, and practices.
- Always comply with safety rules and procedures.
- Never tolerate safety noncompliance by anyone.
- Demonstrate a positive, proactive attitude about safety; this is the most important factor for a successful safety professional.

Memorable Presentation

- Educate as to why safety matters.
- Storytelling, including personal experiences.
- Get the non-choir members to participate.
- Keep and use your sense of humor.

Why Safety Matters

- Michele Dufault (Yale), Sheri Sangji (UCLA), Prof. Karen Wetterhahn
- Company researcher seriously injured at field site.
- TA in qualitative analysis laboratory.
- Research ran reaction neat with just reagents and no solvent.

Be a Good Storyteller

- Improve our storytelling skills.
- Recall our own experiences, both at work and off-the-job.
- Share stories that you have found to be effective in persuading others to work safely.
- *Chem. Health Safe.* **2003**, 10 (1), 56.

Creative Use of Videos

- Show safety videos and point out the safety unintentional violations in the video.
- Let the audience point out the safety violations in a video or in photos.
- Show crucial parts of a video instead of the entire video. (Room to Live)

Keep your sense of humor

- Use personal stories about safety incidents or activities in your career.
- Measuring stair spacing in an atrium staircase.
- Falling out of a chair.
- Exiting the mud drum of a boiler.
- Hey, Mr. Safety!

CHEMICAL	TLV (ppm)	AOT (ppm)
Acetone	750	13
Ammonia	25	5.2
Arsine	0.05	0.5
Carbon monoxide	50	100,000
Chlorine	1	0.31
Chloroform	10	10
p-Dichlorobenzene	75	0.18
Ethyl alcohol	1000	84
Ethyl ether	400	8.9
Hydrogen sulfide	10	0.008
Methyl alcohol	200	100
Methylene chloride	100	250
Naphthalene	10	0.084
Ozone	0.1	0.045
Phenol	5	0.04
Toluene	100	2.9
Vinyl chloride	5	3000
m-Xylene	100	1.1

My Favorite Safety Meeting

- View a video or movie clip, then identify and comment on safety non-conformances.
- Employees do the training.
- Understand the principles.
- Provide creative solutions.
- Reactions to the Vincent Price clip.

Conclusions and Recommendations

- Present relevant information at the appropriate level. Know your audience. What do they know coming into the training session?
- Demonstrate a positive, proactive attitude about safety; this is the most important factor for a successful safety professional.
- Educate as to why safety matters. Use stories, including personal experiences. Get the non-choir members to participate. Keep and use your sense of humor.

Safety in the Chemistry Enterprise

- The study and implementation of chemistry can produce many valuable social and economic improvements, such as improved living conditions, public health, and overall quality of life. The chemistry enterprise creates high-skill and high-wage jobs. The practice of chemistry from concept through research, development, manufacture, use, and disposal must be done safely so as to minimize impacts to human health and the environment.
- The American Chemical Society believes recognition of the ethical obligations to the safety and health of both individuals and the environment is essential for those working with chemicals. Chemists understand working with chemicals and developing new materials and chemical processes involves some degree of risk.
- A thoughtful and educated approach must assess the overall lifecycle and risk/benefit analysis for each area of the chemical enterprise. What are the potential impacts of our activities? This process of minimizing the risk while increasing the benefit should continue throughout the investigation, development, implementation, use, and appropriate recycling or ultimate disposal of products and byproducts. Ethics and safety issues should be considered by all stakeholders when planning or evaluating the funding of science, education of chemists, technological development, and recognition of scientific achievement.

Safety in the Chemistry Enterprise - 2

- Chemical research and development must follow all applicable regulations and incorporate best safety practices regarding use, storage, and disposal of materials. Ongoing reviews of scientific literature, experimental procedures and developing processes will minimize risks. We must alert the end-users of our products and processes to the potential consequences of misuse or failure to follow product recommendations.
- The ACS supports policies and processes which:
- Assure the use of both sound science and risk-based criteria in the promulgation of chemical safety regulations and public policy.
 - Authors of regulations, guidance documents, and operating procedures should regularly review documents based on current, generally accepted, scientific and technical input to address risk to people or the environment.
 - Subject matter experts need to be consulted to identify potential unintended consequences of regulation or public policy.
- Develop information regarding best practices, risks, use, and disposal throughout the development of public policy and regulatory processes.
- Resolve inconsistencies between various state, federal, and local regulatory agencies that cause implementation conflicts.

Safety in the Chemistry Enterprise - 3

Chemical management and regulatory policy should encourage technological innovation and a globally competitive US chemical industry. Advancing research and applying appropriate green and sustainable principles will lead to economically viable technical innovations. To this end, ACS supports the government implementation of:

- An expedited, rigorous treatment to regulatory applications of inherently safer chemical products and processes. The government should work with industry, academia, scientific organizations, public interest groups, and other stakeholders to develop guidelines for use in such a regulatory process.
- Continued support for research and development by universities, industry, government laboratories, and other stakeholders to make safer alternatives available and encourage their adoption.
- Support for the training and education of chemical scientists and engineers to include toxicity issues and exposure risks associated with chemicals.

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