



Improving Safety in the Chemical Enterprise Through Transparent Sharing of Best Safety Practices:

The Dow Laboratory Safety Academy delivers safety information to all

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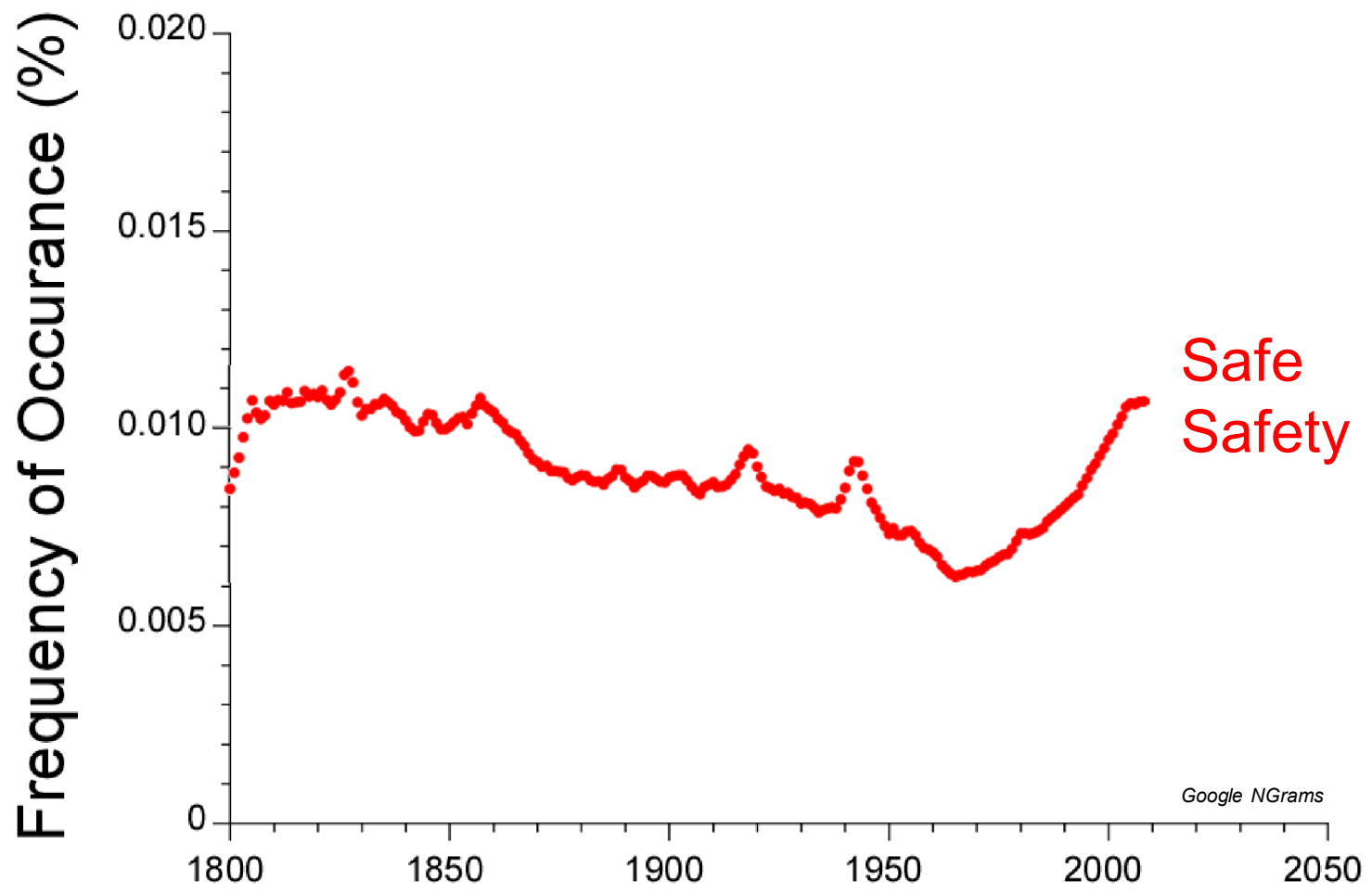
Executive External Strategy and Communications Fellow

21 August 2017

Dow.com



Word Usage Is Telling



Safe
Safety

Google Ngrams

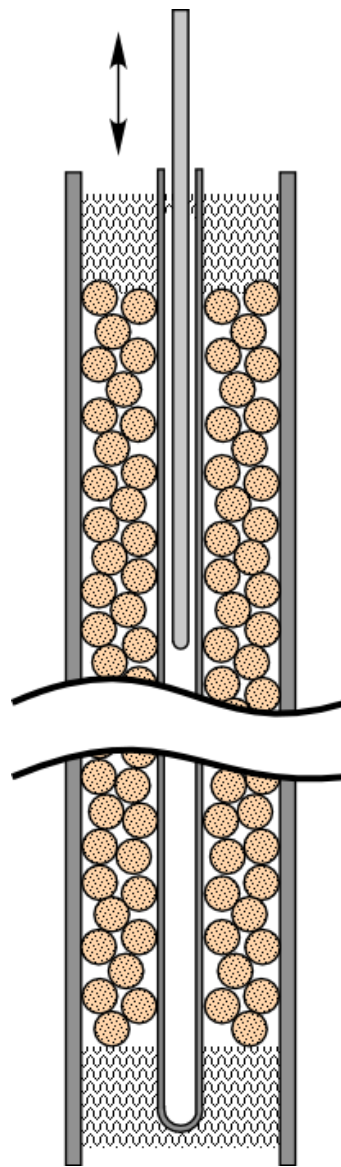


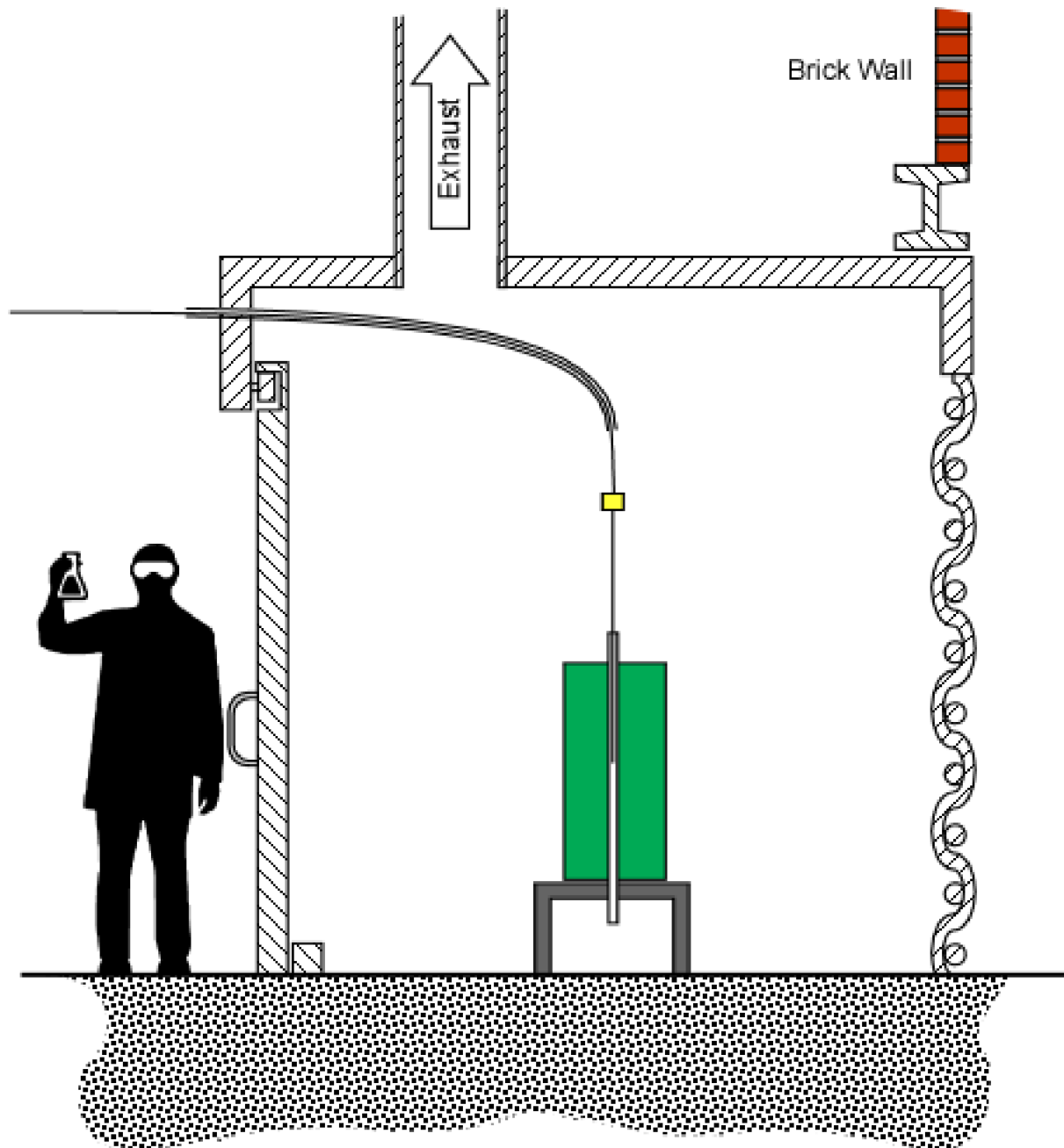






■ Catalysis Research






EH&S Expectations @ Dow

Protect People and
Environment

Vision of Zero

Responsible behavior

The image features three classical columns with fluted shafts and papyrus capitals. The central column is highlighted with a semi-transparent red glow. A rounded rectangular text box is superimposed over the central column, containing the following text:

Our goal is to eliminate all injuries, prevent adverse environmental and health impacts, reduce wastes and emissions and promote resource conservation at every stage of the life cycle of our products.

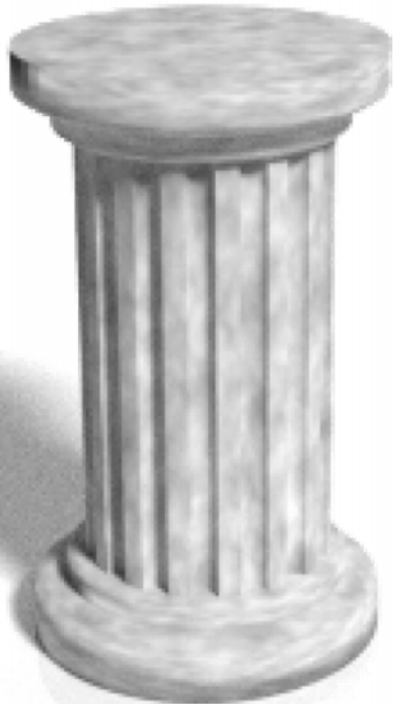


■ EH&S Expectations @ Dow

Responsible behavior

Each employee has a responsibility in ensuring that our products and operations meet applicable government or Dow standards, whichever is more stringent.

All employees, contractors, and visitors are expected to exhibit appropriate and responsible behavior during their presence within a Dow facility.



EH&S Expectations @ Dow

Protect People and
Environment

Vision of Zero

Responsible behavior

Bottom Line:

Dow Expects Employees to Go Home Healthy
and Safe....Everyday





Personalization

Culture

Metrics

Organization,
Work Processes,
Operating Discipline

Operating Discipline
Work Processes
Organization





Universities and Industry: *Common Challenges & Opportunities*

- Mindset of Incident Prevention Not Inevitable Incidents
- Organizational Design
- Need and Ability to Share Researcher Experience
- Safety Is Core Not an “Extra”
- Commit to Safety Not Compliance

Researcher Injured in University of Hawaii Lab Explosion

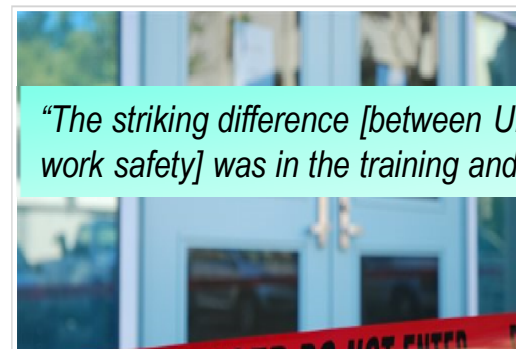
Mon, Mar 21, 2016

AUDREY McAVOY, Associated Press

Victims suffered burns and injuries to her face and arm after explosion

“Safety is a priority and a worker will not be penalized for a delay caused by being safe”

Honolulu Emergency Medical Services spokeswoman Shayne Enright said Thursday the woman was in serious condition after the explosion Wednesday evening. No one else was hurt. The researcher was alone in the lab,



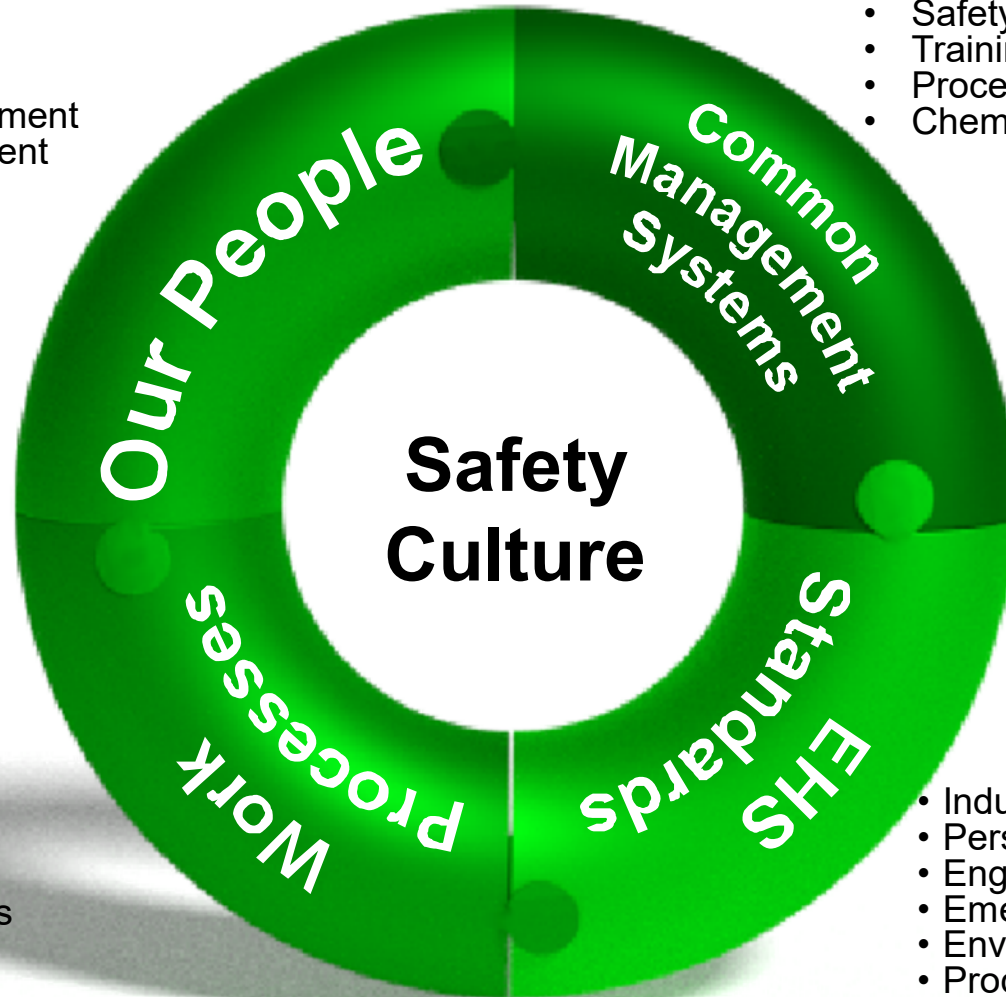
“The striking difference [between University and work safety] was in the training and awareness”

“In Graduate School, pretty much every reaction was run wearing only safety glasses, thin nitrile gloves and maybe a lab coat. Having access to the appropriate PPE has been a major change.”

The researcher was growing cells by feeding them a mixture of low-pressure hydrogen, carbon dioxide and oxygen, said Brian Taylor, the dean of the School of Ocean and Earth Science and Technology. The same process has been used almost daily and without incident since the project began in 2008, he said.

■ Safety Culture

- Leadership Engagement
- Employee involvement



- Safety Goals & Metrics
- Training
- Procedures
- Chemical Hygiene Plan

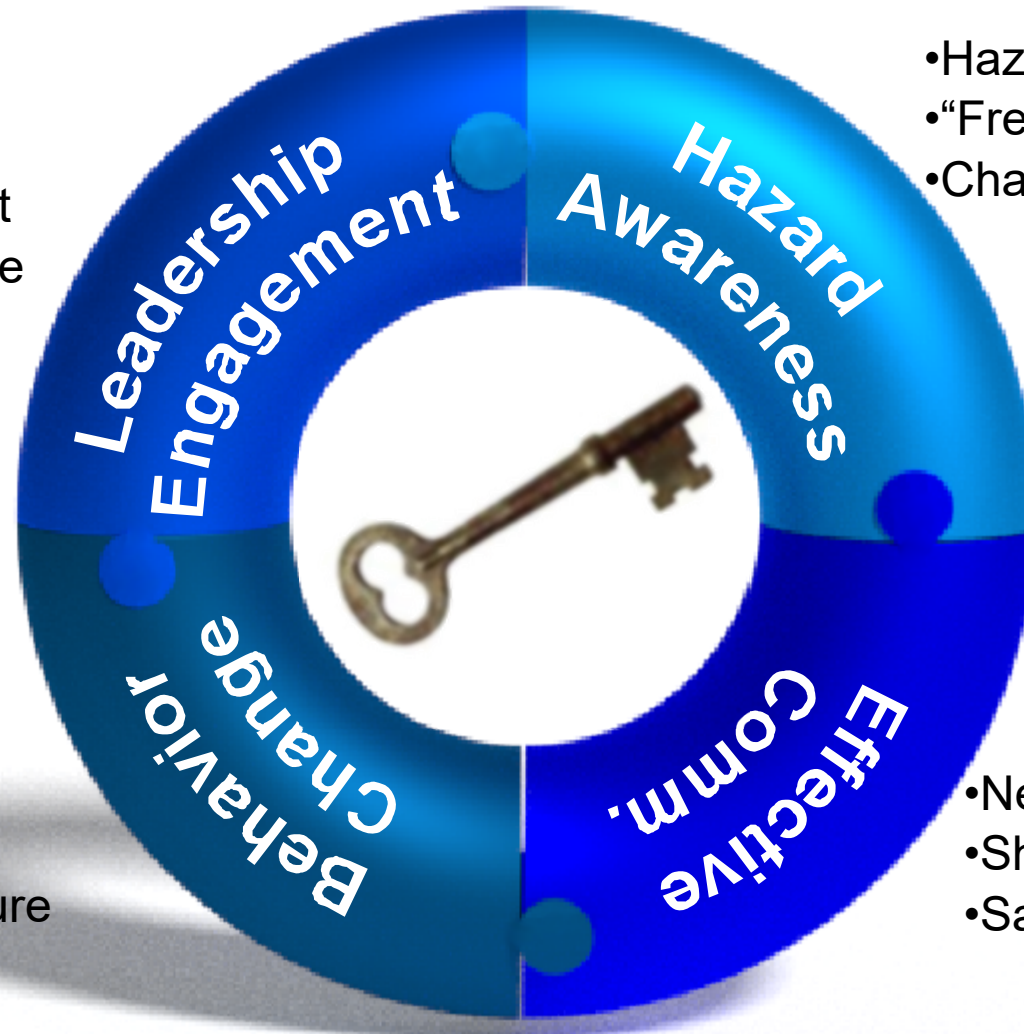
- Hazard Assessment
- Managing Change
- Inspections
- Audits
- Incident Investigations

- Industrial Hygiene
- Personal Safety
- Engineering Design
- Emergency Response
- Environmental
- Process Safety
- Product Sustainability



■ Key Elements of a Sustainable Safety Culture

- Set Expectations
- Visible in the Field
- Show commitment
- Ensure compliance



- Hazard recognition
- “Fresh eyes” approach
- Change management

- Make safety personal
- Intervention culture
- Positive reinforcement

- Near miss events
- Share best practices
- Safety moments

■ Transparent Communication





Make it **P**ersonal

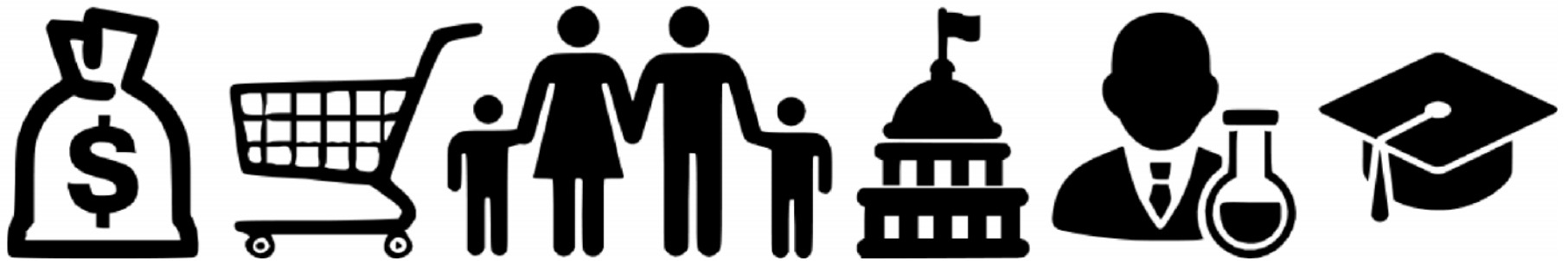
Ask open-ended questions

Create an environment where people are free to ask questions

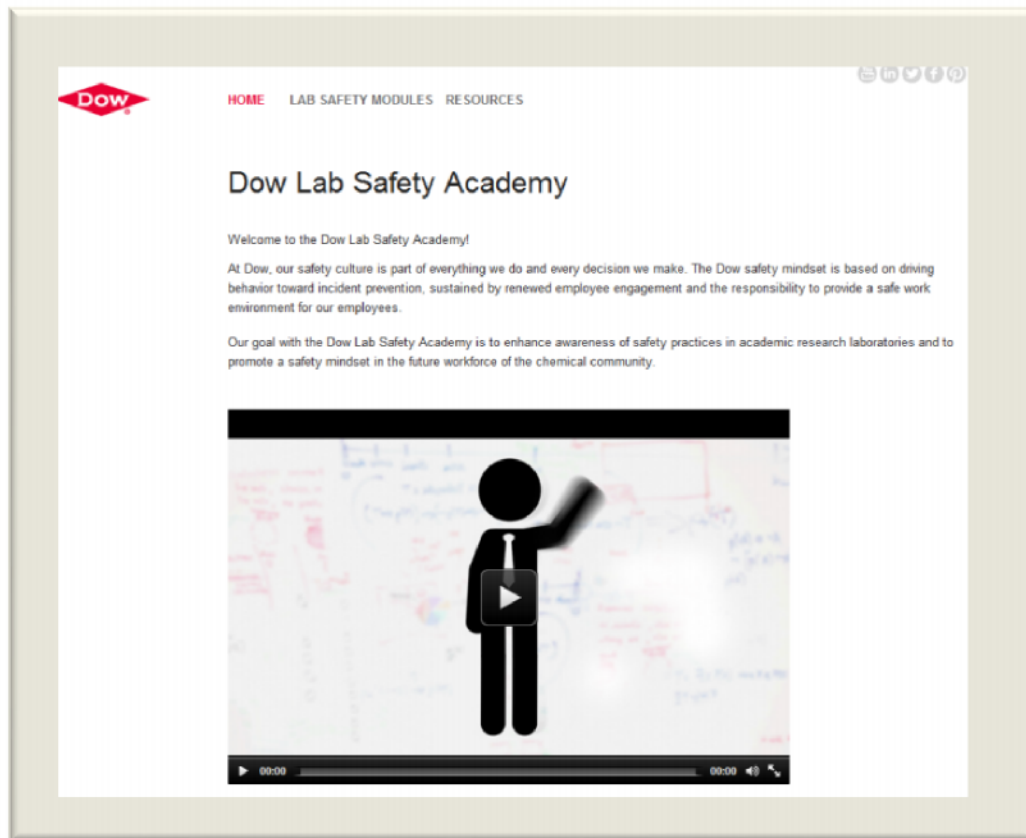
Escalate issues

4 key principles that help us institute safety culture





Dow Lab Safety Academy



Since 2013 Launch...

- 25,000+ enrolled viewers
- >250,000 views
- >60 universities
- >40 Government Agencies & National Labs
- >100 companies
- 10 countries
- 1 external award
- More than a dozen media stories

<http://safety.dow.com>

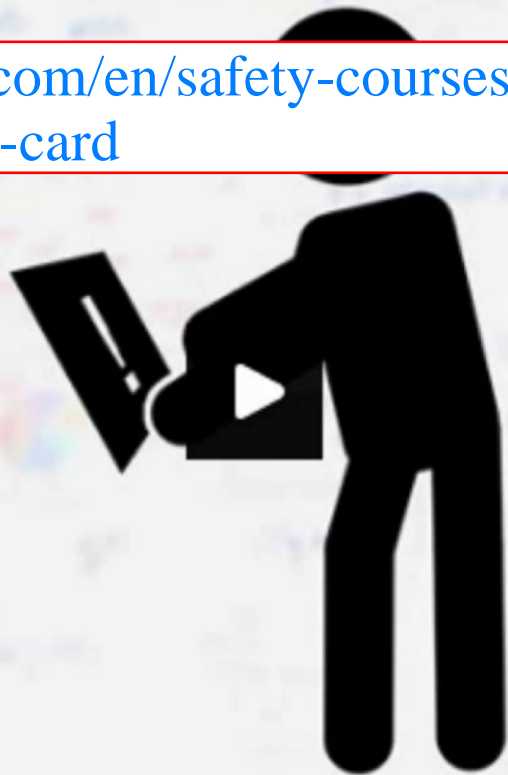




Intro Video from safety.dow.com



<http://safety.dow.com/en/safety-courses/plan-evaluate-execute/safe-operation-card>



■ Dow Lab Safety Academy – Modules

Safety Orientation & Training	Specialized Topics	Plan, Evaluate, & Execute	Sustainable Safety Culture
Ergonomics Fall Prevention Personal Protective Equipment Waste handling Secondary containment Housekeeping Electrical Safety Fire Extinguisher Lone Worker	Fume hood Gas cylinder Glassware Handling Mechanical Integrity Vacuum Equipment Biological Hazards Nanoparticles Cryogenics Pyrophorics	Management of Change Hazard Assessment Safe Operation Cards Reactive Chemicals Energy Calculations Interpreting Safety Data Sheets Chemical Labeling Sample Transportation & Shipping Line of Fire	Making Safety Personal Inspections Interventions Recognition Mentoring Near Miss Reporting Learning Experiences Effective Safety Communications Sustainability Leadership Engagement



