

# TSCA Reform: 8 Years Later Risk Management Panel

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26 June 2024



# Opening Remarks

The views, opinions and recommendations expressed in this panel discussion are based on my 36-year, cumulative experience working in the field of Industrial Hygiene and are not necessarily related to my current employment at PPG.

# What Is Industrial Hygiene?

- “That science and art devoted to the anticipation, recognition, evaluation, and control of those environmental factors or stresses arising in or from the workplace, which may cause sickness, impaired health and well-being, or significant discomfort among workers or among the citizens of the community.”
- Industrial hygienists use environmental monitoring and analytical methods to detect the extent of worker exposure and employ engineering, work practice controls, and other methods to control potential health hazards.

These materials were developed by OSHA’s Office of Training and Education and are intended to assist employers, workers, and others as they strive to improve workplace health and safety.

# History of Industrial Hygiene

- 4<sup>th</sup> Century BC - Hippocrates noted lead toxicity in the mining industry.
- 1<sup>st</sup> Century AD - Pliny the Elder perceived health risks to those working with zinc and sulfur. He devised a face mask made from an animal bladder to protect workers from exposure to dust and lead fumes.
- 2<sup>nd</sup> Century AD - The Greek physician, Galen, described the pathology of lead poisoning and recognized the hazardous exposures of copper miners to acid mists.
- 1556 - The German scholar, Agricola, described the diseases of miners such as silicosis and prescribed preventive measures including mine ventilation and worker protection.

# History of Industrial Hygiene

- 1700 - Bernardo Ramazzini, known as the “father of industrial medicine,” published in Italy the first comprehensive book on industrial medicine, *The Diseases of Workmen*. Ramazzini greatly affected the future of industrial hygiene because he asserted that occupational diseases should be studied in the work environment rather than in hospital wards.
- 1743 - Ulrich Ellenborg published a pamphlet on occupational diseases and injuries among gold miners. Ellenborg also wrote about the toxicity of carbon monoxide, mercury, lead, and nitric acid.

# History of Industrial Hygiene

- 1788 - Percival Pott, studied the effects of soot on chimney sweepers and was instrumental in getting the British Parliament to pass the Chimney-Sweepers Act of 1788. The passage of the English Factory Acts beginning in 1833 marked the first effective legislative acts in the field of industrial safety.
- 1900's - Dr. Alice Hamilton observed industrial conditions and produced evidence that there was a correlation between worker illness and exposure to toxins. She also presented definitive proposals for eliminating unhealthful working conditions. U.S. federal and state agencies begin investigating health conditions in industry.

# History of Industrial Hygiene

- 1908 - Public awareness of occupationally related diseases stimulated the passage of Worker's Compensation laws.
- 1913 - The New York Department of Labor and the Ohio Department of Health established the first state industrial hygiene programs. All states enacted such legislation by 1948.
- 1970 - The Occupational Safety and Health Act of 1970 (OSH Act) was enacted.
- Today, nearly every employer is required to implement the elements of an industrial hygiene and safety, occupational health, or hazard communication program and to be responsive to the Occupational Safety and Health Administration (OSHA) and its regulations. OSHA regulations are numerous and are used together to manage risk in the workplace.

# OSHA Chemical-related Examples

- 1910 Subpart G Occupational Health and Environmental Control
  - 1910.94 Ventilation
- 1910 Subpart H Hazardous Materials
  - 1910.119 Process Safety Management of Highly Hazardous Chemicals
  - 1910.120 Hazardous Waste Operations and Emergency response training
- 1910 Subpart I Personal Protective Equipment
  - 1910.134 Respiratory Protection
  - 1910.138 Hand Protection
- 1910 Subpart J General Environmental Controls
  - 1910.146 Permit-required confined spaces
- 1910 Subpart Z Toxic and Hazardous Substances
  - 1910.1200 Hazard Communication
  - 1910.1450 Occupational exposure to hazardous chemicals in laboratories



# Summary

Industrial hygiene is a global practice that has been developing for centuries by physicians, biologists, chemists, engineers, and others who are passionate about protecting worker health, the environment and our communities. Since 1948 Industrial Hygiene has been recognized as a profession requiring specific training, education, experience, certification and continuing education. These requirements prepare the Industrial Hygienist to evaluate and manage complex situations, diverse chemicals, and diverse environments. IH solutions are pragmatic, ethical, holistic and collaborative. Unreasonable risk is not part of the industrial hygiene vernacular - risk management is the job of the Industrial Hygienist.

TSCA risk management in the workplace, including ECEL development, fit perfectly into the industrial hygienist's wheelhouse and are ripe topics for collaboration. Both parties would benefit, and the importance of this much needed collaboration cannot be overstated.

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