

Industrial Hygiene Overview

**Cincinnati Plant
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Definition of Industrial Hygiene (IH)

“The science or art devoted to the prevention, recognition, evaluation, and control of hazards or stresses in the workplace which may cause illness, injury, or significant discomfort.”

You are a manager in a chemical facility and are asked the following question by your employees:



“We work with a lot of chemicals; how do you know this job is safe and won’t make us sick?”

IH vs. Safety

IH is interested in longer-term, chronic, health hazards in the workplace.

Safety concerns itself more with short-term acute hazards which result in injuries.

Laws

- OSHA - Occupational Safety and Health Administration
- NIOSH - National Institute of Safety and Health (here in Cincy)
- OBH - Ohio Board of Health

IH Program

- Chemical exposure
- Noise exposure
- Ergonomics
- Sanitation
- Illumination
- Heat/Cold Stress
- Control Systems - e.g. ventilation
- Personal Protective Equipment
- Training

What makes a chemical hazardous to employees?

- Properties (liquid, gas, vapor, solid)
- Toxicity (effect on body systems)
- Route of entry (how it gets in the body)
- Quantity (amount taken in by the body)
- Duration (hours, days, years)
- Individual Susceptibility (age, gender, state of health, tolerance, etc)

Addressing Workplace Chemical Hazards

- **Identify hazardous chemicals**
- **Identify exposures**
- **Measure exposures**
- **Reduce/control exposures**
- **Personal protective equipment -- “last resort”**
- **Hazard information and training**

Hazard Information - MSDS

(Material Safety Data Sheet)

OSHA Required Sections

- Material Identification
- Composition
- Hazards
- First aid measures
- Fire fighting
- Accidental release
- Handling and storage
- Exposure control and protection
- Physical and chemical properties
- Stability and Reactivity
- Toxicology
- Ecology
- Disposal
- Transportation
- Regulatory
- Other

Review of typical MSDS

Methyl chloride