



Ignorance?

Complacency?

Defiance?



# Headline News

- “US Department of Labor’s OSHA cites AMD Industries in Cicero, IL \$1.2M for 27 safety and health violations”;
- “Indiana Department of Labor cites Ford Lumber and Building Supply, Inc. in Dupont, IN \$132,000 for 8 Knowing safety and health violations”;
- “Jury awards roofer \$35.1 M in damages after suffering from malignant pleural mesothelioma due to work-related exposures at the Shell Refinery in Wood River, IL”
- “Landlord held responsible for lead poisoning”



# Why?

- the headlines....
- the exposures...
- the citations....
- the suffering.....



# Our Knowledge Regarding Lead and Asbestos

- Not “new” chemicals
- Used for thousands of years



# History of Lead Usage

- ❑ Used by Egyptian Pharaohs between 3,000 and 4,000 B.C. to glaze pottery.
- ❑ Lead solder used by Babylonians and the Assyrians to fasten bolts and construct buildings.
- ❑ Used to make coins 4,000 years ago by the Chinese, Greeks and Romans.
- ❑ Roman “society” used lead pots or lead-lined copper kettles in wine making. It reportedly added complementary flavors to the wine unlike copper



# History of Lead Health Hazards

- 370 BC - Hippocrates was the first to “diagnose” lead colic (abdominal pain caused by lead poisoning)
- Lead poisoning was epidemic in Roman society – high lead concentrations noted in skeletal bones from archeological digs.
- Lead acetate was widely used as a sweetener in wines and medicines during the 15<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, and 18<sup>th</sup> centuries resulting in widespread lead poisoning.



# U.S. History of Lead “Regulations”

- 1971- Lead-Based Paint Poisoning Prevention Act
- 1978 – Use of lead-based paint banned
- 1992 – Congress passed the Residential Lead-Based Paint hazards Reduction Act.
- 1996 – Clean Air Act banned leaded gasoline for on-road vehicles
- 2002 - European Union and Australia ban leaded gasoline



# Accepted Exposure Limits - Lead

- 1933, U.S. Public Health Service = 150  $\mu\text{g}/\text{m}^3$
- 1957, ACGIH = 200  $\mu\text{g}/\text{m}^3$
- 1971, ACGIH = 150  $\mu\text{g}/\text{m}^3$ ; ANSI = 200  $\mu\text{g}/\text{m}^3$
- 1973, NIOSH = 150  $\mu\text{g}/\text{m}^3$  (proposed)
- 1975, OSHA = 100  $\mu\text{g}/\text{m}^3$  (proposed)
- 1978, OSHA = 50  $\mu\text{g}/\text{m}^3$  (Final Rule)



# History of Asbestos Usage

- Used in pottery and log home construction by the Scandinavians in 3000 BC.
- Used by the Romans in clothing and building materials.
- Used by Finish 4500 years ago to strengthen earthenware pots and cooking utensils
- Used by the Egyptians in their embalming process



# History of Asbestos Health Hazards

- Romans recommended that quarry slaves from asbestos mines not be purchased because "they die young."
- 1897 - a Viennese physician attributed emaciation and pulmonary problems to (asbestos) dust inhalation.
- 1906 - first documented case of an asbestos-related death was reported.
- 1928 - effects of asbestos in the lungs identified as asbestosis.



# History of Asbestos “Regulations”

- ❑ Italy banned the use of asbestos 1992.
- ❑ France banned the use of asbestos in 1997.
- ❑ Australia banned the use of asbestos in 2003.
- ❑ Japan banned the use of asbestos in 2004
- ❑ United Kingdom passed the Control of Asbestos Regulations in 2006 which banned the import and use of **most** asbestos products.



# U.S. History of Asbestos “Regulations”

- ❑ U.S. EPA has no **general** ban on the use of asbestos; however, it is regulated under the Clean Air Act of 1970 and many uses are banned under TSCA (Toxic Substances Control Act).
- ❑ 1971 - OSHA issued a Emergency temporary standard for exposure to asbestos dust (PEL = 5 fibers/cc down from 12 fibers/cc).
- ❑ 1972 - OSHA issued a permanent standard regulating exposure to asbestos (PEL = 5 fibers/cc).
- ❑ 1975 – OSHA proposed a reduction to 0.5 fibers/cc for GI. Too much controversy.
- ❑ 1976 – OSHA reduced PEL to 2 f/cc for GI



# U.S. History of Asbestos Regulations

- ❑ 1983 - OSHA issued a Emergency Temporary Standard lowering the TWA for exposure to asbestos.
- ❑ 1984 - OSHA issued a Proposed standard lowering the PEL for asbestos.
- ❑ 1986 – OSHA publishes Final Rule lowering PEL to 0.2 f/cc for both GI and construction.
- ❑ 1994 – Final Rules updated again lowering the PEL to 0.1f/cc



# Why do Exposures Continue?

- Neither lead nor asbestos are new hazards, but our knowledge of “acceptable” exposure levels has changed.
- Even today one can say there are no safe thresholds for either substance—in other words, there is no known amount that is considered too small to cause the bodily harm.
- Our knowledge of even “known” chemicals, their characteristics, their hazards, etc., change with time.. with research.. with technological advances.



# Time to Change?

- Our attitude towards the “safety” of lead and asbestos...
- Our handling of lead-containing or asbestos-containing materials...
- Our employees exposure to lead or asbestos..



# Incentives to Change

- Employee injury/illness
- Regulatory Enforcement
- Liability



# Illnesses Associated with Exposure

## ■ Asbestos

- **Malignant mesothelioma** - between 2000 and 3000 new cases reported in the U.S. each year.
- **Asbestos-related Lung Cancer** - 3400 to 8500 new cases each year in the US.

## ■ Lead

- **Lead Poisoning:**
  - **Children** – each year 310,000 children between the ages of 1 and 5 are found to unsafe levels of lead in their blood;
  - **Adult** – In 2002, 10,658 adults were reported in 35 states to have high blood leads



# Enforcement Statistics – Asbestos

## FY11

- 123 inspections nationwide
  - Industry
    - 49 (40%) Construction
    - 74 (60%) GI
  - Scope
    - 53% Complaint-based
    - 15% Referral-based
    - 32% Planned
- 2,458 Violations issued in **GI**
  - 66% S,W,R
  - Average Initial Penalty = \$1,484
- 10,026 Violations issued in **Construction**
  - 84% S,W,R
  - Average Initial Penalty = \$1,350



# Enforcement Statistics – Lead FY11

- 47 inspections nationwide
  - Industry
    - 17 (36%) Construction
    - 30 (64%) GI
  - Scope
    - 36% Complaint-based
    - 19% Referral-based
    - 38% Planned
- 895 Violations issued in **GI**
  - 79% S,W,R
  - Average Initial Penalty = \$2,944
- 1,093 Violations issued in **Construction**
  - 78% S,W,R
  - Average Initial Penalty = \$1,466



# Asbestos Liability - Employers

- Jury in Circuit Court of Cook County awarded the family of an insulator who died of mesothelioma, compensatory damages of \$12.3 million - the largest single mesothelioma verdict nationwide.
- An electrician suffering from mesothelioma who died shortly before his trial began. The case was tried on behalf of the employee's widow and children. The Cook County jury awarded a verdict of \$3.5 million in compensatory damages.
- Jury awarded a roofer employed at Shell refinery in Wood River, IL, to work on the roofs of storage tanks laden with asbestos insulation, over \$35.1 million in damages. Mr. H. was diagnosed with malignant pleural mesothelioma.



# Asbestos Liability – Building Owners

- March 2003, jury awarded \$47 millions to a single plaintiff who alleged that he contracted mesothelioma as a result of exposure to asbestos-containing building materials. The defendants held liable included the property owners, as well the lighting and electric company.
- March 2003 ruled in favor of plaintiff with minimal signs of exposure due to emotional damages associated with fear of “developing cancer.”



# Asbestos Liability – Who's Responsible

- Most asbestos lawsuits involve an employee suing an employer for injuries sustained after being exposed to asbestos at work. Injured victims have filed over 700,000 asbestos lawsuits against over 8,000 companies. All together, experts predict 1.3 to 3.1 million asbestos lawsuits will be filed with recoveries totaling between \$200 and \$275 billion.
- Lawsuits may also be filed against:
  - asbestos manufacturers
  - asbestos installers
  - leasing agents
  - Landlords



# Lead Liability – Who's Responsible

- Unlike asbestos, a number of lawsuits are filed on behalf of children against:
  - Owners of apartment buildings;
  - Owners of child-related businesses like day care facilities
  - Manufacturers and retailers
- A number of lawsuits involve employees suing for injuries/illnesses sustained after work-related exposures.



# Lead Liability – Who's Responsible

- Lead paint lawsuits by tenants against landlords have increased during the past few years as the public has become more aware of the dangers created by lead paint.



# “Landlord held responsible for lead poisoning”

Cleveland Plain

- A Cleveland jury put landlords on notice yesterday that they need to make sure the apartments they rent are free of deteriorating lead paint. Jurors found property manager responsible for Mr. C. childhood lead poisoning, and awarded \$100,000 in damages.



# \$afety Pays

- An interactive expert system to assist employers in estimating the costs of occupational injuries and illnesses and the impact on a company's profitability. This system uses a company's profit margin, the AVERAGE costs of an injury or illness, and an indirect cost multiplier to project the amount of sales a company would need to generate in order to cover those costs. Businesses can use this information to predict the direct and indirect impact of injuries and illnesses and the estimated sales needed to compensate for these losses

# OSHA's Safety Pays Program

[Return to Small Business](#) [Home](#) [Estimator](#) [Background](#) [Credits](#)

## Estimated Costs of Occupational Injuries and Illnesses and Estimated Impact on a Company's Profitability Worksheet

[\[Text Version\]](#)

"Safety Pays" helps estimate cost gains realized through the prevention of occupational injuries and illness claims. Businesses can use this information to predict the direct and indirect costs of injuries and the sales needed to compensate for these losses. Your local [OSHA On-site Consultation Office](#) can provide information and assistance on developing and implementing an effective safety and health management system that can help prevent injuries and/or illnesses to provide a safe working environment for your employees.

### Direct Costs

1. Select an injury type from the drop-down menu OR enter the total workers' compensation costs.
2. Enter the profit margin (leave blank to use default of 3%).
3. Enter the number of injuries (leave blank to use default of one).
4. Select "Add/Calculate" to compute the total direct and indirect costs.
5. Repeat the step to add additional injuries to the list.

Injury Type or



# Costs Associated with Asbestosis

- Direct Cost = \$23,346
- Indirect Cost = \$25,680
- Additional Sales to Cover Indirect Costs at a 3% Profit Margin = \$856,020
- Additional Sales to Cover Direct Costs at a 3% Profit Margin = \$1,634,200

\*Estimates based on 2005 data supplied by the National Council on Compensation Insurance, Inc.

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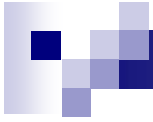


# Costs Associated with Lead Poisoning

- Direct Cost = \$25,054
- Indirect Cost = \$27,559
- Additional Sales to Cover Indirect Costs at a 3% Profit Margin = \$918,646
- Additional Sales to Cover Total Costs at a 3% Profit Margin = \$1,753,766

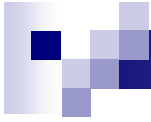
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# Questions





**Occupational Safety and  
Health Administration**