STUDENT EMPLOYEE RIGHT TO KNOW TRAINING
ERK Overview

The Employee Right to Know (ERK) Act

• Passed by Minnesota Legislature in 1983

• Employees must be aware of hazardous substances and/or agents that may be encountered at work
ERK Overview

- Responsibility
- Hazard determination by employers
- Written program
- Material Safety Data Sheets (MSDSs)
- Labels and other warnings
- Methods of protection
- Emergency procedures
Health Effects

Chemical exposure can produce acute or chronic effects
Health Effects

Acute
• Generally manifests quickly
• Example: acid spill on skin

Chronic
• Usually takes longer to develop
• Usually targets certain organs
• May not be able to sense exposure
Categories of Hazards

- Toxic substances
- Irritant
- Corrosive/caustic
- Strong oxidizer
- Strong sensitizer
- Flammable
- Reactive
- Carcinogens, mutagens, teratogens
- Reproductive toxic agents
Toxic substances

Poisonous (kills living cells)
• acutely toxic (harmful at point of contact)
• chronic/systemic (targets specific organs or body systems)

Examples:
• pesticides
• herbicides
Irritant

Inflammatory response as a result of exposure

- Redness or swelling of skin
- Tearing of eyes
- Edema or cough

Examples: bleach, stainless steel cleaners
Corrosive/caustic

Strong acidic or caustic materials
- Destroys material
- Chemical action
- Creates scarring
- Attacks and destroys living things

Examples: battery acid, boiler treatment chemicals
Strong Oxidizers

Chemicals/compounds that contain oxygen

- Oxygen can be easily released in chemical or oxidizing reactions
- Can cause other compounds to burn (keep away from flammables)
- Examples: oxygen cylinder, ammonium nitrate, hydrogen peroxide
Strong sensitizer

Causes allergic or exaggerated reaction
- Adverse health effects
- Commonly acute reactions

Examples: formaldehyde, nickel
Flammables

Materials that ignite easily and burn

- Combustible: flashpoint 100-200°F
- Highly flammable: flashpoint 73-100°F
- Extremely flammable: flashpoint below 73°F

Examples: gasoline, ether, aerosol sprays
Reactives

Rapid chemical reaction
• Release energy which creates heat or promotes combustion
• Noxious or toxic gases are typical by-product of reaction
Examples: sodium metal
Carcinogens

Alter the way cells reproduce and divide

- Promotes, facilitates, or causes cancer in tissue
Reproductive toxin

Mutagen
• Causes alteration of genetic information in a cell
• May change shape and nature of tissue (tumor)

Teratogen
• Causes malformation of fetus
Harmful physical agents

- Heat
- Noise
- Vibrations
- Ionizing radiation
- Non-ionizing radiation
Routes of entry

- Dermal or skin (absorption, direct contact, open wound)
- Ingestion (mouth, gastrointestinal tract)
- Inhalation (throat and lungs)
- Injection (needle stick)
Written Program

Content
• Who is covered
• Chemical inventory
• MSDSs
• Training components
• Training records

Location: BLC intranet
Survey of Hazardous Substances

What chemicals does Bethany usually store?

• Completed in 2008
Material Safety Data Sheets

• Manufacturer’s recommendation on how to use the chemical safely
• All chemicals should have an MSDS available
• Departments are responsible for adding MSDS sheets for new chemicals
MSDS Information

- Personal protective equipment recommendations
- Stability and reactivity
- Potential health effects
- Hazard identification
- Chemical product and company information

cont …
MSDS Information

- Composition
- Physical and chemical properties
- First aid measures
- Spill response
- Storage and handling

Example: Clorox toilet bowl cleaner
I Product: CLOROX® DISINFECTING TOILET BOWL CLEANER WITH BLEACH
Description: VISCOUS, FRAGRANCED LIQUID

Other Designations
EPA # 5813-89
Fresh Scent
Rain Clean

Distributor
Clorox Sales Company
1221 Broadway
Oakland, CA 94612

Emergency Telephone Nos.
For Medical Emergencies call:
(800) 446-1014
For Transportation Emergencies, call Chemtrec:
(800) 424-9300

II Health Hazard Data
DANGER: CORROSIVE. Causes severe irritation or damage to eyes and skin. Vapor or mist may irritate. Harmful if swallowed.

Some clinical reports suggest a low potential for sensitization upon exaggerated exposure to sodium hypochlorite if skin damage (e.g., irritation) occurs during exposure. Under normal consumer use conditions the likelihood of any adverse health effects are low. The following medical conditions may be aggravated by exposure to high concentrations of vapor or mist: heart conditions or chronic respiratory problems such as asthma, emphysema, chronic bronchitis or obstructive lung disease.

FIRST AID:
EYE CONTACT: Hold eye open and rinse with water for 15-20 minutes. Remove contact lenses, after first 5 minutes. Continue rinsing eye. Call a doctor.

SKIN CONTACT: Wash skin with water for 15-20 minutes. If irritation develops, call a doctor.

INGESTION: Do not induce vomiting. Drink a glassful of water. Call a poison control center or a doctor. Do not give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If breathing is affected, call a doctor.

III Hazardous Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Concentration</th>
<th>Worker Exposure Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite</td>
<td>1-5%</td>
<td>Not established</td>
</tr>
<tr>
<td>CAS # 7681-52-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>0.1-1%</td>
<td>2 mg/m³ - TLV-C</td>
</tr>
<tr>
<td>CAS # 1310-73-2</td>
<td></td>
<td>2 mg/m³ - PEL-TWA</td>
</tr>
<tr>
<td>TLV-C = ACGIH Threshold Limit - Ceiling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL-TWA = OSHA Permissible Exposure Limit - Time Weighted Average/Short Term Exposure Limit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

None of the ingredients in this product are on the IARC, OSHA or NTP carcinogen lists.
### IV Special Protection and Precautions

**Hygienic Practices:** Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods.

**Engineering Controls:** Use local exhaust to minimize exposure to product fumes.

**Personal Protective Equipment:** Wear safety glasses. For sensitive skin or if handling product for prolonged or repeated periods, wear nitrile, neoprene, or natural rubber gloves.

### V Transportation and Regulatory Data

**DOT:** Consumer Commodity ORM-D.

**IMDG:** Dangerous goods in limited quantities of Class 8.

**IATA:** Corrosive liquid, n.o.s., Class 8, Packing Group II.

**EPA - SARA TITLE III/CERCLA:** This product is regulated under Sections 311/312 and contains no chemicals reportable under Section 313. This product contains sodium hydroxide and sodium hypochlorite and are regulated under Section 304/CERCLA.

**TSCA/DSL STATUS:** All components of this product are on the U.S. TSCA Inventory and Canadian DSL.

### VI Spill Procedures/Waste Disposal

**Spill Procedures:** Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

**Waste Disposal:** Dispose of in accordance with all applicable federal, state, and local regulations.

### VII Reactivity Data

Stable under normal use and storage conditions.

Reacts with other household chemicals such as acid toilet bowl cleaners, rust removers, acids, and ammonia-containing products to produce hazardous gases, such as chlorine and other chlorinated compounds.

### VIII Fire and Explosion Data

Not flammable or explosive.

### IX Physical Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>pH</strong></td>
<td>~13</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>~1000 cP</td>
</tr>
<tr>
<td><strong>Specific gravity</strong></td>
<td>1.0</td>
</tr>
</tbody>
</table>
Components of Training

• Identifying hazardous chemicals in the workplace
• Physical and health hazards of chemicals
• Methods of protection
• Details of ERK program
Labels

All containers must be properly labeled

• Original containers
• Secondary containers
  – Identity of product
  – Appropriate hazard warnings
• Do not bring chemicals from home!
Importance of Labels
NFPA Label

- Blue = Health/Toxicity
- Red = Fire Hazard
- Yellow = Reactivity
- White = Special Information
HMIS Label

- Chemical Name
- CAS #
- HEALTH
- FLAMMABILITY
- REACTIVITY
- SPECIFIC

Options:
- 4 = Deadly
- 3 = Severe
- 2 = Moderate
- 1 = Slight
- 0 = No Hazard

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Methods of Protection

Safety goggles/glasses

• Chemical splash goggles (handling chemicals)

• Glasses (wood dust, metal shavings)
Methods of Protection

Gloves
• Disposable (use only once!)
• Reusable (wash after each use)
• Heat resistant

Ear protection
• Ear plugs
Methods of Protection

Respirators/dust masks

• Half-face respirator must comply with BLC Respiratory Protection Program

• N95/dust mask requires user review and signing of “voluntary users” form
Work Practices and Hygiene

General rules
• Read labels and MSDS
• Follow safety precautions
• Ensure adequate ventilation
• Wash thoroughly
• Change contaminated clothing
• Label materials when necessary
Wash your hands!

- Use warm water
- Wet both hands and wrists
- Apply liquid soap to palms first
- Lather well; spread lather to back of hands and wrists
- Scrub for at least 15 seconds
- Rinse well; dry completely
- Turn off faucet using disposable towels
Emergency Procedures

- Eyewash locations
- Report to Security Services (507-344-7888) if exposed
- Contact supervisor for spills greater than one gallon
- Post specific spill procedures in specific areas (science departments)
Hazardous Waste

Containers must be closed and labeled

• *hazardous waste*
• descriptive name
• dated
Hazardous Waste

Aerosol cans
- Empty: may be thrown in trash
- Not empty: must be disposed of as hazardous waste

Latex paint
- Solid: may be thrown in trash
- Liquid: must be disposed of as hazardous waste
Hazardous Waste

Oil-based paint or stain
• Both liquid and solid must be disposed of as hazardous waste

Fluorescent light bulbs
• Used: can be stored in original boxes
Electrical Safety

- Service equipment ONLY if it is locked out!
- Only authorized employees are allowed to conduct lockout/tagout on hard-wired equipment
- Replace frayed or worn electrical cords (do not repair with duct tape)
- Use only equipment with 3-prong plug or double insulated
Compressed Gases

- Gas cylinders should be labeled (contents and empty/full) and chained to the wall
- Fuel (acetylene) and oxygen cylinders are to be stored at least 20 feet away from heat sources of combustible materials, or with a fire-rated wall between them, when not being used
To complete the ERK training, copy the link below and paste it into your browser to take the ERK quiz. The Human Resources office will be sent a notice that you have completed the quiz. If you have also completed the blood-borne pathogens training and quiz, your supervisor will be notified that you have been approved to begin work. Contact the Human Resources office (hr@blc.edu) with questions about this quiz.