



# Employee Training Manual

## Corrosives

# Corrosives

- Corrosives are powerful chemicals that are necessary for some jobs. Because you can't always avoid them, you must be aware of how to protect yourself from their hazards.
- Safety Data Sheet (SDS)
  - Before using any corrosive product, you should read it's SDS.



# Corrosives

- What is a corrosive?
  - Corrosives can be:
    - Liquids
    - Powders
    - Pellets
    - Gases
  - As well as:
    - Acids
    - Bases
  - Most have a strong, irritating odor. Reactions involving corrosives can create heat and fumes.

# Corrosives

- To detect the presence of a corrosive, you can use a specially treated paper called litmus paper.
- Litmus paper turns red in the presence of an acid and blue in the presence of a base.
- The pH scale defines the strength of acids and bases with a value of 7 being neutral.

pH Value	Chemical Type	Litmus Reaction
1	Strong Acid	Red
7	Neutral	NA
14	Strong Base	Blue

# Corrosives

- How can they hurt me?
  - Corrosives can cause irritation and chemical burns. They can also be poisonous.
- A. Chemical Burns – Your skin and the mucus membranes of your eyes, nose, mouth and respiratory tract are targets for irritation and burning from contact with corrosives.



New 8/3/2015

# Corrosives

- What do you feel when you come into contact with a corrosive?
  - 1. Acids – will cause a burning, irritating sensation which may be very painful. Other corrosives may not cause any immediate pain, even though they are still causing damage. Battery acid is an example of a corrosive that may not cause immediate pain if it gets on your skin.
  - 2. Bases – when a base comes in contact with your skin, you may feel a slippery sensation instead of a burning irritation.

# Corrosives

- B. Breathing Problems – Corrosive gases, fumes or mists can irritate or burn the mucous membrane linings of the nose, throat and respiratory tract. This can lead to a build-up of fluid in the lungs (pulmonary edema) which is a life-threatening condition.
- C. Poisoning – Many corrosives are toxic. They can get into your system through inhalation, absorption through the skin or ingestion. Over exposure to toxic or highly toxic corrosives requires medical attention and could lead to a life-threatening condition.

# Corrosives

- Know the physical hazards.
  - Corrosives also have physical hazards that you need to be aware of:
    - 1. Reactive – They can react violently with water or other substances. Some of these reactions can be violent, generate heat, cause explosions or cause enough pressure build-up in a container to make it rupture. DO NOT mix acid and caustic chemicals. DO NOT mix acids with chlorine containing chemicals.
    - 2. Combustible or Flammable – They can easily ignite and burn. Acetic acid is one example.



# Corrosives

- 3. Reactive with Metals – they can become explosive and produce highly-flammable hydrogen gas.
- 4. Oxidizers – They react when in contact with other chemicals creating oxygen. This greatly increases the flammability hazard. Oxidizers initiate or promote combustion in other materials. Nitric, chromic and perchloric acids are examples of corrosives that are also oxidizers.