Water Plant Chemical Safety
May 2014
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Safety Share

Be aware of your environment. Accidents can easily happen when drawers are left partially open or cords are not tacked down properly.

Lanyards are for identification badge display. Make sure that your lanyard is not so long that it could potentially catch on something (such as the open drawer mentioned above).

Keep your environment (and neck) safe at work!
Agenda

› Review water chemical pH hazards
› PPE Basics
› Safety Videos for Caustic Soda
› The Change From MSDS to SDS
› Safe use of chemicals at home
› Questions and feedback

Typical Water Treatment Chemicals

**Very Low pH** Aluminum Sulfate Solution, Ferric Chloride/Sulfate

**Very High pH** Ammonium Hydroxide

**Low pH** Antiscalant Solution

**Very High pH** Caustic Soda Solution

**Very Low pH** Corrosion Control Liquids

**Very Low pH** Hydrofluosilicic Acid

**Neutral pH** Polymer

**Low pH** Polyaluminum Chloride

**High pH** Soda Ash Granular

**High pH** Sodium Hypochlorite Solution

**Low pH** Sodium Silicofluoride

**Very Low pH** Sulfuric Acid Solution
Other Factors For Safe Handling

**Polymers** will be a slip hazard when spilled. Water dilution does not help; cover with absorbent material. For clean up use salt, sodium hypochlorite or acid, always wearing proper PPE.

Other Factors For Safe Handling

› **PPE basic rules include:**
  • Use the right PPE for the job.
  • Inspect PPE for damage before and after use.
  • Clean PPE after each use.
  • Replace defective equipment.
  • Follow your facility’s safety rules.
Eye Safety

- Safety glasses
- Goggles
- Face shields
- Welding helmets
- Laser eyewear.

- Select shades and filters rated specifically for the job you're doing. Check with your safety officer about using contact lenses and phototropic or variable-tinted lenses. They may be prohibited.

Hearing, Head, Hand

Protection is needed in any high noise area whether a sign is posted or not. Wear ear protection for your future!

To properly insert earplugs:
- Wash your hands.
- Roll plug into a rod-like shape.
- Pull back and upwards on ear.
- Insert plug into ear canal.
- Hold in for a few seconds.

After the job
- Throw away disposable earplugs.
- Clean reusable ear protection.
- Store reusable away from damaging conditions

Proper Head Gear for your facility.
Use appropriate gloves for the job.
Know what you are walking into

Where Are You?

Does the vent/fan work

Could the room, an open drum, day tank create a confined space hazard?

Sodium Bisulfite or Sulfite Solutions are an oxygen scavengers

Hydrofluosilicic Acid fumes are strong enough to etch glass

Drum Colors & Types Change

Always Check The Label
Circle of Excellence

Where Are You?

Has the bulk driver checked in with you for delivery?
Does he have on proper PPE
Verify connection
Verify capacity
Something is not right?

YOU ARE IN CHARGE
MAKE IT STOP IF ANYTHING IS IN QUESTION
Something spilled!

Sound the Alarm?  
Call 911?  
Evacuate the Area?  
➢ Don’t call 911 for something you can safely handle  
➢ Coming Along With The Fire Department Will Be The Media

Video Links

Caustic Soda (Sodium Hydroxide) Videos

http://storage.dow.com.edgesuite.net/flash_video/causticsoda/Caustic_Soda_Module02_Caustic_Soda_Introduction.flv

http://storage.dow.com.edgesuite.net/flash_video/causticsoda/Caustic_Soda_Module03_Safety_and_PPE.flv

http://storage.dow.com.edgesuite.net/flash_video/causticsoda/Caustic_Soda_Module07_Unloading_Tank_Trucks.flv


MSDS to SDS the GHS Project

OSHA DEADLINES

December 1, 2013: Training
- General Awareness for all employees
  June 1, 2015: Labels on shipped containers and Safety Data Sheets
- Manufacturers
  - Labeling extension for distributors
    December 1, 2015: Extension for distributors for previously labeled shipped containers
    June 1, 2016: Written communication plan, workplace labeling and additional training on new hazards

GLOBALLY HARMONIZED SYSTEM

MSDS to SDS

Section 1. Identification
Section 2. Hazards Identification
Section 3. Composition, Information On Ingredients
Section 4. First Aid Measures
Section 5. Firefighting Measures
Section 6. Accidental Release Measures
Section 7. Handling & Storage
Section 8. Exposure Controls & Personal Protection
Section 9. Physical & Chemical Properties
Section 10. Stability & Reactivity
Section 11. Toxicological Information
Section 12. Ecological Information
Section 13. Disposal Considerations
Section 14. Transport Information
Section 15. Regulatory Information
Section 16. Other Information
Chemical Hazards at Home

Drain Cleaners are made from various chemicals.
SULFURIC ACID  CAUSTIC SODA  SODIUM HYPO

Questions

Feedback is also welcome.