Working Safely with Corrosives Meeting Kit

WHAT'S AT STAKE

Corrosives are materials so powerful that they can damage or destroy metal. Although corrosives can be dangerous, they need not be harmful if they are handled, stored, and disposed of safely.

WHAT'S THE DANGER

4 WAYS CORROSIVE SUBSTANCES HARM WORKERS

1. **Ingestion.** Swallowing a corrosive chemical will almost immediately burn the lining of the mouth, throat, esophagus, and stomach.
2. **Inhalation.** Breathing corrosive vapors can irritate tissues in your nose, throat, and lungs and cause coughing and breathing problems. Chlorine, ammonia, and hydrofluoric acid will cause severe burning to the eyes, nose, throat, windpipe, and large airways within minutes of exposure.
3. **Absorption.** Long-term exposure and absorption of corrosive chemicals can cause serious complications for the internal organs. Take hydrofluoric acid (used when processing stainless steel, ceramics, glass, and enamels). Over time it accumulates in the bones, weakening and degenerating bone structure as well as causing damage to the heart, nerves, and intestines.
4. **Direct contact.** When splashed on the body, corrosive chemicals damage tissue almost immediately. Skin becomes irritated, then blisters and burns (severe burns are often fatal). Our eyes are particularly vulnerable to corrosives and injuries can cause permanent scars and blindness.

HOW TO PROTECT YOURSELF

BEST SAFE WORK PRACTICES WITH CORROSIVES

1. Substitute with a less hazardous corrosive material. Substitution can be the best way to avoid or reduce a hazard. Start by obtaining the MSDSs for all possible substitute materials. Find out about all the hazards (health, fire, chemical reactivity) of these materials before making any changes.

2. Use good ventilation wherever corrosives are present. The amount and type of ventilation needed to minimize the hazards of airborne corrosives depends on such things as the kind of job, the kind and amount of materials used, and the size and layout of the work area.

3. How to store containers of corrosives. Corrosives can destroy containers made of improper materials. Be sure to store corrosive materials in the type of containers recommended by the manufacturer or supplier.

4. Where to store corrosives. Store corrosives in areas that are:

- Well-ventilated.
- Supplied with adequate firefighting equipment.
- Supplied with suitable spill clean-up equipment and materials.
- Labelled with proper warning signs.

At all times:

- Allow only trained, authorized people into storage areas.
- Keep the amount of corrosive material in storage as small as possible.
- Inspect storage areas regularly for any deficiencies, corrosion damage, leaking containers, or poor housekeeping.
- Correct all deficiencies as soon as possible.

5. The importance of storage temperature. Store corrosives in dry, cool areas, out of direct sunlight, and away from steam pipes, boilers, or other sources of heat. If a sealed full drum or carboy of a corrosive liquid is stored in direct sunlight or near other heat sources, vapor levels in the container can build up.

6. How to handle corrosive containers safely. Many workplaces receive corrosive liquids in large metal drums or barrels and fill smaller containers from them. Drums can be moved in specially designed drum cradles which can also be used as individual drum storage racks.

7. Add corrosives to water. Many corrosive materials, both liquid and solid, generate large amounts of heat when they are mixed with water. Always add corrosives to water, slowly, in small amounts, with frequent stirring. Always use cold water.

8. How to dispose of waste material safety. Never dispose of corrosives down sinks or drains that connect to sanitary or storm sewers. Dispose of them according to the manufacturer’s or supplier’s directions, or through hazardous waste disposal company.

9. When to wear proper personal protective equipment. If other methods, such as engineering controls, are not available or effective enough to control exposure to corrosives, wear suitable personal protective equipment (PPE).

- Avoid skin contact

Wear protective gloves, aprons, boots, hoods, or other clothing depending on how much chance there is of skin contact. This clothing must be made of materials that resist penetration or damage by the chemical.

- Protect your eyes and face

Always wear eye protection when working with corrosives.

- Avoid breathing corrosive vapors, fumes, dust, or mists

If respirators must be used for breathing protection, there should be a written respiratory protection program.

KEY CORROSIVE SAFETY TAKEAWAYS

Wear the proper personal protective equipment (PPE) when working with corrosive

materials.

Dispense corrosives carefully and keep containers closed when not in use.

Rule to remember: AAA – Always Add Acids to water – this also applies to bases.

Practice good housekeeping, personal cleanliness, and equipment maintenance.

Know how to handle emergencies (spills, fires, injuries) involving corrosive materials.

Always follow the health and safety rules that apply to your job.

FINAL WORD

Understanding how dangerous corrosive materials can be and taking the necessary precautions allows employees to perform their duties as required and reduce the risk of injury on the job.