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Chemical Safety

When we talk of chemicals we sometimes don't realize that the word chemical covers a very wide range of materials that we just think of as everyday use items. When we talk of chemicals we include corrosives, solvents, explosives, compressed gases, oxidizers, flammable liquids, and other chemical substances which can be potentially dangerous. As we know these need not be harmful if handled, stored, and disposed of safely. The following checklist will aid you in protecting yourself and others against chemical hazards before they become chemical emergencies.

Checklist for Safe Use of Chemicals

Read the container labels and the Material Safety Data Sheets (MSDS's). These two items will give you safe handling procedures, warnings, personal protective equipment, and disposal procedures.

Always add acids to water, not water to acids to prevent boiling over and splashing.

Never sniff a chemical to identify its type or location.

Always use the appropriate personal protective equipment (PPE) when working with chemicals. Even if you have done the procedure a thousand times and can do it blindfolded, this is when accidents happen.

When using PPE, make sure it fits properly and that you know how to use it.

When you use a respirator, make sure the cartridge you use is matched to the chemical you are trying to protect yourself from.

Don't wear contact lenses, they can absorb chemicals or trap them against your eyes.

Know the location of eyewash stations and safety showers and how to use them. This will be your first emergency treatment should you be exposed to a chemical spill or splash.

When working with solvents or corrosives slowly mix or even dip parts into them.

Never put your hands into solvents or corrosives even when wearing gloves.

Always wash your hands before eating or smoking, also before and after every shift.

Use any and all engineering controls installed for your protection. These can be fans, exhaust hoods, chemical hoods, or any other ventilation system available.

Know the location of the first aid kit and what is in it.

Irreconcilable Differences

There comes a time when you use chemicals that when you finish with them and they need to be stored. This can be the most important part of the job. You need to be aware of the dangers of incompatible chemicals. These chemicals can react together to create toxic smoke, gas, heat, fire, or explosion.

Oxidizers & Flammables

Fires need oxygen to burn, and oxidizers are chemicals that give off a great deal of oxygen in a hurry. So you can see why you must take special precautions to keep them away from flammable and combustible materials. Never store oxidizers with combustible materials or other oxidizers. Store flammable liquids in a separate, ventilated room in fire resistant containers that have been grounded to prevent ignition from static electricity.

Acids & Bases

Acids and bases are chemical opposites that react violently with each other, often producing heat, explosions or toxic gasses. Many acids are also oxidizers and can create fires if they react with combustible materials. Store acids and bases in separate areas in clearly labeled containers.

When making decisions about storing chemicals, follow the chemical storage plan for your facility. Always refer to the MSDS and the warning labels for information on compatibility. Store chemicals in their proper containers, under proper conditions, then you know you have stored the chemical correctly.