Hydrogen Gas - H₂

Hydrogen (H₂) is a colorless, odorless, flammable gas which is compressed to high pressure. The flammable range of hydrogen is 4.0% - 75.0 % in air. High-pressure leaks can ignite spontaneously and burn with a colorless flame. This Safety Bulletin discusses precautions that should be taken when using Hydrogen.

Safety Precautions for Hydrogen Use

• User training
  o MSDS (Material Safety Data Sheets) on Hydrogen should be available to anyone working with this gas, online versions can be obtained from www.hazard.com.
• Safe Work Practices
  o Select and use the correct regulator connector by checking the CGA number.
    ▪ Incorrect connectors can sometimes be installed on inappropriate gas cylinders.
    ▪ CGA 350 is the standard connector for Hydrogen.
  o Check the overall condition of the regulator.
    ▪ Do not use a regulator that has been used for other gases.
    ▪ Leak test the connections.
  o Never work on a pressurized system.
    ▪ If there is a leak, close the cylinder valve.
    ▪ Purge the system in a safe manner.
• Handling and Storage
  o Use adequate ventilation.
  o Separate Hydrogen cylinders from oxygen, chlorine, and other oxidizers by at least 20 feet (6.1 meters) or use an approved gas cabinet.
  o Store only where temperatures will not exceed 125° F (52° C).
  o The must be no sources of ignition in areas where Hydrogen is being stored.
  o Segregate empty cylinders from full cylinders.
  o When a cylinder is not in use, screw the valve protection cap firmly in place.
  o Secure cylinders upright at the top and bottom. Adjust the cylinder racks so that cylinders are tightly secured.
• Personal Protective Equipment
  o Wear safety glasses when handling any compressed gas.
  o EH&S Can Help
  o Contact us at x6727 if you need assistance with training on hazards, proper storage, handling and emergency procedures, or if you have any questions regarding the use of Hydrogen.