Industrial Gases

Toolbox Talk
Classification of Gas Cylinders

- Flammable Gases
- Oxygen and Oxidizing Gases
- Acid and Alkaline Gases
- Highly Toxic Gases
- Cryogenic Liquefied Gases
- Inert Gases
Handing of Compressed Gas Cylinders

- Move cylinders using a suitable hand truck or cart.
- Leave the valve protection cap and valve seal outlet in place until the cylinder has been secured in place and is ready to be used.
- Secure cylinders when in storage, transit, or use.
- When returning cylinders to the supplier, properly close the cylinder valve, replace and secure any valve outlet seals and properly install the cylinder cap.
Handing of Compressed Gas Cylinders

- Never roll a cylinder to move it.
- Never carry a cylinder by the valve.
- Never leave an open cylinder unattended.
- Never leave a cylinder unsecured.
- Never grease or oil the regulator, valve, or fittings of an oxygen cylinder.
- Never refill a cylinder.
- Never use a flame to locate gas leaks.
- Never attempt to mix gasses in a cylinder.
Special Precautions

Special Precautions for a Flammable Gas

• Cylinders of flammable gas must be stored away from flammable liquids, combustible materials, oxidizers, open flames, sparks and other sources of heat or ignition.

Special Precautions for an Oxidizing Gas

• Do not use oily hands or gloves when handling cylinders. The reaction between oxygen and hydrocarbons can be violent, even when small quantities are involved.

Special Precautions for a Corrosive Gas

• Metals become brittle when used in corrosive gas service, check equipment and lines frequently for leaks.
Safe use of Compressed Gas Cylinders

- **Only** properly trained personnel should handle/use compressed gas cylinders
- Always use the proper regulator for the gas in the cylinder
- Do not allow oil or grease to come in contact with cylinders or valves
- Attach the regulator securely before opening the valve
- Open the cylinder valves slowly, stand to the side of regulator when opening a valve
- Do not attempt to repair the cylinder valves while a cylinder contains gas pressure
OXYGEN & OIL/GREASE
DON'T MIX

KEEP OXYGEN SYSTEMS
CLEAN & FREE OF OIL,
GREASE AND OTHER
HYDROCARBON MATERIALS

For additional information, see CGA publication P-1, "Safe Handling of Compressed Gas in Containers," which is referenced in OSHA's General Industry Standards.

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Malpractices

Storage of combustible materials (in this case flammable) under a staircase, not to mention the installation of a Fire Hose as well as other fire-fighting equipment in a semi-accessible area.

Maintenance technician grinding and hot metal debris are ejected towards the oxygen/acetylene bottle assembly.
Safety Checklist for Getting Started

The necessary safety equipment you need are:

- Proper eye Protection
- Appropriate gloves
- Clothing free of grease & oil
- Clean Work Area
- Fire extinguisher
• Environmental Health & Safety Chemical Safety Division University of Texas Health Science Center at San Antonio

• Industrial gases in Petrochemical Processing: Chemical industries

• Handbook of Compressed Gases, Compressed Gas Association. InC
ANY QUESTIONS?

THANKS FOR YOUR PARTICIPATION!!!