Safety Information

Prior to Purchasing Any Compressed Gas:

Familiarize all personnel handling any compressed gases with the procedures recommended in the Material Safety Data Sheet (MSDS), as well as the latest edition of Matheson publications *Guide to Safe Handling of Compressed Gases, Effects of Exposure to Toxic Gases,* and Compressed Gas Association's CGA P-1-2000 titled *"Safe Handling of Compressed Gases in Containers."*

Provide proper instruction and training for all personnel handling compressed gases.

Identify and set up a safe and secure area for cylinder inventory. It should be well isolated from working areas and well ventilated.

Isolate a separate area for storing cylinders to be returned to Matheson. Inspect this area routinely to confirm that there are no problem cylinders that must be attended to between routine pick up periods.

Minimize potential problems associated with hazardous gases by ordering the smallest quantity required.

When the Gas Cylinders Arrive at Your Company:

Inspect each incoming cylinder to ensure that it is free of leaks and contains the correct product.

Review the current Material Safety Data Sheet (MSDS) provided with the product.

Move cylinders in a safe manner using an approved cylinder hand truck with straps and chains.

Secure all cylinders properly while in use and during storage.

Valve plugs and caps are safety devices which need to be safely stored after removing so they can be replaced when the cylinder is ready to be returned to Matheson.

Monitor all cylinder storage areas and locations where cylinders are in use for leaking gases. Use gas detection apparatus designed for the particular requirement.

Be thoroughly familiar with all emergency procedures and equipment necessary to deal with leaking cylinders and control equipment. (Fire extinguishers, breathing apparatus, etc.)

Use control equipment recommended for the gas product. (See the equipment recommendation listing after each gas and mixture product in the catalog)

- **Cylinders containing flammable gases and mixtures should be properly grounded.**
- **Control equipment for oxidizing gases and mixtures must be free of any non-oxidant compatible lubricant, i.e., petroleum-based oils and greases.**
- **Use proper check valves and purge venting with all hydroscopic corrosive gases.**

When Cylinders Are Empty, or Partially Full and No Longer Needed:

Whenever the pressure of the compressed gas in a cylinder is reduced to the minimum required working pressure, close the cylinder valve before detaching from the apparatus and relieve pressure in all connecting lines and control equipment in a safe manner.

Replace valve outlet plugs or caps and cylinder valve protection caps.

Disconnect cylinders from securing clamps.

Move cylinders to the proper storage location using an approved cylinder hand truck with straps and chains.

When cylinders are no longer needed they should be returned to Matheson as soon as possible, classified, marked, and labeled as originally shipped.

If a Problem Should Occur:

When an accident happens, will you be prepared? By following a few simple guidelines it is our sincere hope that you will be better prepared to deal with many emergency situations involving compressed gases.

Pre-Emergency Planning

Be prepared. Dealing with compressed gas emergencies begins with planning. An emergency response plan should be developed for the facility. As a minimum, the plan should include:

- Emergency telephone numbers
- Emergency response organizational charts
- Emergency procedures
- Listing of key personnel
- Training schedules and documentation
- Hazardous materials lists (including storage locations, quantities, etc.)
- Emergency response equipment lists
- Facility maps

In addition to the above, be sure that local emergency services (fire department, emergency medical services, police and hazardous materials response teams) are aware of the hazardous materials at your facility, their location and their hazards.

Response Guidelines

The following guidelines are based on the four general compressed gas hazard categories: inert, flammable, corrosive and toxic, and should be used in preparing your specific emergency response procedures.

These guidelines should be used to assist you in making decisions and they are not intended to serve as a substitute for your own knowledge or judgment. They provide only the most basic information and may not be adequate or applicable in all situations.

You are advised to consult local fire codes and federal and state environmental regulations OSHA, SARA, RCRA . . . etc.

Fire

Consult the most current version of the MSDS for the product. The MSDS contains information and procedures to follow if a fire should occur. Some of these procedures can include the following:

- Let burn unless leak can be stopped immediately
- Small Fires: Dry chemical or CO_2 extinguishers
- Large Fires: Water spray, fog or foam extinguishers
- Move container from fire area if you can do it without risk
- Stay away from ends of tanks

- Cool containers that are exposed to flames with water from the side until well after fire is out
- For massive fire in cargo area, use unmanned hose holder or monitor nozzles
- If this is impossible, withdraw from area and let fire burn
- Withdraw immediately in case of rising sound from venting safety device or discoloration of tank may be ignited by heat, sparks and flames
- Flammable vapor may spread away from spill
- Container may explode in heat of fire
- There may exist a risk of vapor explosion and poison hazard indoors, outdoors, or in sewers
- Some of these materials may burn but do not ignite readily
- May ignite combustibles (wood, paper, oil, etc.)
- Mixture with fuels may explode

Health Hazards

Consult the most current version of the MSDS for Hazard identification and Toxicity information. Some of the Hazard identifications can include the following:

- May be fatal if inhaled, swallowed or absorbed through skin
- Contact may cause burns to skin and eyes
- Contact with liquid may cause frostbite
- Runoff from fire control or dilution water may cause pollution
- Vapors may cause dizziness or suffocation
- Fire may produce irritating or poisonous gases

Spill or Leak

Consult the most current version of the MSDS for accidental release measures, disposal considerations and ecological information. Accidental release measures can include the following:

- Stop leak if you can do it without risk
- No flares, smoking or flames in hazard area
- Do not touch spilled materials
- Use water spray to reduce vapors
- Isolate area until gas has dispersed
- Keep combustibles (wood, paper, oil, etc.) away from spilled material

First Aid

Consult the most current version of the MSDS for First Aid measures, which can include the following:

- Move victim to fresh air, call emergency medical care
- If not breathing, give artificial respiration
- If breathing is difficult, give oxygen
- Remove and isolate contaminated clothing and shoes
- In case of contact with material, immediately flush skin or eyes with running water for at least 15 minutes
- Keep victim quiet and maintain normal body temperature
- Effects may be delayed, keep victim under observation

In the Event of an Incident

- Sound an alarm
- Evacuate personnel
- Shut down equipment
- Determine nature of incident---leak, fire, spill, etc.
- Determine what gases are involved and type of containers
- Activate your emergency response plan

Emergency Action

- Will vary depending on nature of incident and types of materials involved
- If types of materials involved are known---MSDS's should be consulted to determine the potential hazards. Example: flammable, poison, oxidizer . . . etc.
- Keep unnecessary people away; isolate hazard area and deny entry
- Stay upwind; keep out of low areas
- Wear positive pressure breathing apparatus and full protective clothing
- Evacuate area endangered by gas
- Also, in case of water pollution, call local authorities

24-Hour Emergency Assistance

If you should have an emergency involving any Matheson product, we can be reached through **CHEMTREC**, the Chemical Transportation Emergency Center in Washington, DC, at **1-800-424-9300**.

When you call **CHEMTREC**, be sure to have the following information ready:

- Name of caller and call-back number
- Nature and location of the problem
- Shipper or manufacturer
- Container type
- Placard/Label applied
- Accessibility
- Weather conditions
- Local population information
- Topographic features
- Availability of water

Transportation Emergency Contact

- **Domestic: 1-800-424-9300**
- **International: 01-703-527-3887**