

Material Safety Data Sheets

A Material Safety Data Sheet (MSDS) is a fact sheet that lists the characteristics and hazards of a specific hazardous industrial material. MSDSs tell how to handle, store, and ship the material safely and in accordance with regulations. They also give emergency and first aid procedures for dealing with injuries, fires, leaks, spills, and other incidents involving the material. Praxair MSDSs also provide additional information such as ratings under various hazard identification systems, listing by certain states, and valve connection data.

Under the OSHA Hazard Communication Standard, manufacturers of hazardous materials must prepare and make available an MSDS for each hazardous material sold. In addition, those purchasing these materials must maintain a file of MSDSs in the work place so they are available to their employees.

Precautionary information on the safe handling of gases listed in this catalog is provided on Material Safety Data Sheets (MSDS), which are issued to customers for each product sold.

We strongly urge you to read and thoroughly understand the information contained in the applicable MSDS before using any of the gases in this catalog.

Copies of MSDSs can be obtained through your Sales Representative, by calling Praxair at 1-800-PRAXAIR or visiting our website at www.praxair.com/msds.

Chemmate® Gas Mixture MSDS Program

Praxair customers are the first in North America to be able to find what they need to know about their customized, multi-component gas mixtures on a single, stand-alone MSDS document. This new, value-added service offers a big safety advantage for customers. Generated by the new Chemmate® gas mixture MSDS program, data from each component of the gas mixture is distilled and combined into a government-approved,

Personal Protective Equipment

The type of personal protective equipment required at a particular location depends on the products handled at that location. For personal protective equipment recommendations, read the MSDS for each product handled at your location. Personal protective equipment, available from local safety equipment suppliers, should be selected in accordance with standards established by OSHA or NIOSH.

Receiving Cylinders and Containers

External Inspection

Personnel responsible for receiving cylinders and containers should perform an external inspection on all packages before moving them to the point of use or to the storage area. Basic guidelines for performing this inspection are as follows:

- Read the cylinder labels to be sure that the gas is what you ordered and that you understand the hazards associated with the product. Remember, the label is the only means of identifying the product in the cylinder. Never identify the product by the color of the cylinder.
- Check the TC/DOT cylinder markings to be sure you understand the pressures contained in the cylinders.
- Thoroughly inspect the cylinders for any obvious damage. The cylinder surface should be clean and free from

defects such as cuts, gouges, burns and obvious dents. Such damage could weaken the cylinder metal, creating a danger of failure, or it could make the cylinder unstable and more likely to tip over. Make sure the cylinder stands steady on its base and does not wobble.

- Cylinders with neck threads should have a cap in place over the valve. Remove the cap by hand. Never use a screw driver, crowbar, or other leverage device to remove the cap. You could accidentally open the valve or damage it.
- Check the cylinder valve to be sure it is not bent or damaged. A damaged valve could leak or fail, or it might not make a tight connection when the cylinder is placed into use. Make sure the valve is free of dirt and oil, which could contaminate the gas. Dirt particles propelled in a high-velocity gas stream could cause a spark, igniting a flammable gas. Oil and grease can react with oxygen and other oxidizers, causing an explosion.
- If any cylinder is received with missing or unreadable labels and markings; visible damage; an unstable base; a missing cap; or a bent, damaged, or dirty valve, do not use the cylinder. Contact your supplier and ask for instructions.

Testing for Leaks

After completing the external inspection, proceed as follows:

- Test the cylinder valve for leaks using the leak test method approved by your employer. If you detect leakage, follow your employer's procedures for handling leaking cylinders.

Note: It is normal for cryogenic liquid containers to vent through their relief valves to relieve excess pressure build up due to heat leak. This venting is not a leak.

- If no leakage is detected, secure the cylinder valve cap in place before moving the cylinder to the point of use or to the storage area.