

SAFETY ALERT

May 1, 2023

Clearly Identify Your Gas and Water Piping

Hazards: Mixing of Incompatible Gases, Emergency Response Issues

Our lab areas contain various gas and water lines. It is important that these are clearly identified to ensure the correct gas is connected to the correct equipment. In addition, clear identification of gas, water, and drain lines is crucial in the event that emergency responders such as the fire department need to enter a lab area.

At the minimum, each research gas or liquid plumbing system must be labeled so that the following points are clearly and uniquely identified:

- Source (gas cylinder)
- Points of use (equipment)
- Near valves and flanges
- Critical shut-off valve(s)
- Where direction changes
- On both sides of barriers, walls, or floors the pipe passes through
- At regular intervals on straight runs, spaced for easy identification

In addition, pipe labels should include:

- Include an arrow identifying the direction of flow
- Where the plumbing outer diameter is too small or the tubing too flexible for practical application of traditional adhesive labels, the label may be applied as a flag or hanging tag
- Labels must be applied directly to the plumbing where practical; otherwise, labels may be applied near the plumbing such that each line can be clearly and uniquely identified.

Gas and liquid pipe labels must be color coded in accordance with **ANSI A13.1** standards. This allows emergency responders to quickly identify any hazards they may encounter. The color-coding requirements are as follows:

Gases and Liquids

<i>Hazard of Gas or Mixture</i>	<i>Color Code</i>	<i>Examples</i>
Flammable or Oxidizing	Black on Yellow	Oxygen, Hydrogen, Methane, Propane, Acetylene
Toxic or Corrosive	Black on Orange	Hydrogen Chloride, Ammonia, Sulfur Dioxide, Carbon Monoxide
Simple Asphyxiant (Inert) or Compressed Air	White on Blue	Nitrogen, Argon, Helium, Compressed Air
Definable by User	Black on Gray	Carbon Dioxide

Liquids

<i>Liquid</i>	<i>Color Code</i>	<i>Examples</i>
Fire Extinguishing Systems, Including Fire Sprinkler Water	White on Red	Facilities should identify
Liquid Water	White on Green	Chilled water, domestic water, heated water, DI water,
Combustible Liquids	White on Brown	Oil

A supply of commonly used gas and liquid pipe labels is available on the label supply bulletin boards located in buildings 30, 62, and 70. Labels can also be obtained through the ETA Safety Manager, Ron Scholtz. Please contact him with the type and quantity of labels needed.

For further information regarding pipe identification requirements, go to: [PUB 3000 Chapter 13 Gas Safety](#)

If you have questions identification of gas lines in your lab area, contact the ETA Safety Manager, Ron Scholtz, at X8137.