

Toxic Compressed Gases

Toxic gases can cause injury and death when inhaled, ingested, or absorbed by the skin. Examples include ammonia, vinyl chloride, and phosgene.



Safety Precautions

- Consult with EHS before purchasing toxic gases.
- Develop and make available Standard Operating Procedures (SOPs) for Highly Toxic gases. These SOPs shall include emergency response and training for all involved employees
- Provide, train, and practice an emergency response procedure for everyone working in the area.
- Train employees to work with highly toxic gases and allow only those trained to work with them.
- Have documented training for all lab personnel who will be working with toxic gases.
- Training must include compressed gas hands-on training showing different types of regulators, changing regulators, performing leak tests, etc.
- Intermittent toxic gas emergency drills are required and must include all of those working in the area whether in contain with toxic gases or not.
- Require a minimum of two people in the lab when toxic gases are being used.
- Wear PPE at all times while working with toxic gases.
- Avoid contact with skin and eyes.
- Review the Safety Data Sheets (SDS) often to remember and observe all safety use guidelines.
- Never work with toxic gases outside a fume hood or BSC!
- Never store toxic oxidizing gases near combustible materials!
- Store toxic gases with Health Hazard 3 and 4 ratings inside a mechanically ventilated gas cabinet.
- Store small compressed gas cylinders inside a fume hood, but they must be secured with a frame casing.
- Maintain negative pressure ventilation relative to the adjacent occupied spaces (i.e., hallways, offices, classrooms, and other laboratories).
- Ensure that a gas detection system with visible and audible alarms to detect the presence of leaks, etc. is installed for all toxic and highly toxic gases with hazard rating 3 or 4.
- Confirm that emergency power is provided for the gas cabinet exhaust, system shut offs, monitoring, alarms, and associated components.
- Service and maintain gas detection and alarm system according to the manufacturer's guidelines.
- Toxic flammable gases should never be stored near unprotected electrical connections, ignition or heat sources or fire extinguishers.

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Health Hazard 3 (HH3) and Health Hazard 4 (HH4) Compressed Gases

EHS must be notified **before obtaining** HH3 and HH4 gases (regardless of quantity).

EHS can be notified by phone 205-934-2487 or direct e-mail to Dr. Kochurani Jacob, Assistant Director of Research Health, at kjacob@uab.edu.



Send this information to EHS before obtaining HH3 and HH4 gases!

Name and location of the Principal Investigator (PI)	
Project Registration and training information	
Type, concentration, and quantity of the gas	
Storage and use location(s)	
Vendor name – including written acknowledgment/ agreement confirming that the vendor will accept the “used” cylinders for return	