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.
**Toxic Compressed Gases**

**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!**

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