UAH

The University of Alabama in Huntsville

COMPRESSED GAS POLICY

Office of Environmental Health and Safety
Facilities and Operations Department
The University of Alabama in Huntsville
Huntsville, AL 35899

3.3 Leak Testing - All gas cylinders will be tested for leaks prior to removing cylinders from the delivery [illegible] oxygen deficiency hazards. (ii) Hazardous (iii) Pyrophoric gases - Pyrophoric gases ignite spontaneously in air at or below 130°F (54.4°C). Examples include silane, diborane, and phosphine. (iv) Toxic gases - Toxic gases are gases that have a permissible exposure limit, short-term exposure limit, or lethal concentration for acute toxicity that would indicate they pose a hazard to health. Examples include arsine, phosphine, and nitrogen dioxide. (v) Flammable gases - Flammable gases are gases that will burn in air when they are at a concentration at or below 13% by volume. Examples include acetylene, hydrogen, and propane. (vi) Corrosive gases - Corrosive gases are gases that will visibly destroy or irreversibly alter human skin tissue at the site of contact or in case of leakage, will materially damage other shipped materials, vehicles, or containers. Examples include hydrogen chloride, chlorine, and ammonia.

4.6.4 Cylinders sha ng45 0 TdS(l)Tj 0e002 Tcd [(r)4((d,)Tj 1 [(r) Td)y

7. INSTALLING OR REMOVING GAS CYLINDERS

7.1 Whenever installing or removing a gas cylinder containing toxic, corrosive, flammable, pyrophoric, or irritants the "Buddy System" must be used. Two people wearing PPE must be working together and one person must be located outside of the hazard area ready to respond in an emergency.

7.2 Personnel installing or removing compressed gas cylinders (and the Buddy) are required to wear the appropriate PPE (see Table 2.0)

7.3 Only personnel who have been trained on cylinder changes are qualified to do so.

7.4 Supervisors must provide correct installation instructions and training for installation.

7.4.1 Precautions must be taken when installing a gas cylinder containing toxic, corrosive, flammable, pyrophoric or irritants, to restrict unau

9. LEAKING GAS CYLINDERS

9.1 There should be no reason to transport a leaking cylinder

TABLE 1 – GAS CLASSIFICATION

GAS NAME	SYMBOL	TOXIC	CORROSIVE	OXIDIZER	PYROPHORIC	FLAMMABLE	CRYOGNIC	INERT
Acetylene								

GAS NAME	SYMBOL	TOXIC	CORROSIVE	OXIDIZER	PYROPHORIC	FLAMMABLE	CRYOGNIC	INERT
Freon 116(Hexafluoroethane)	C2F6							X
Germane	GeH4	X			X	X		
Helium	He							X
Hexafluoro-1,3-butadiene	C4F6	X				X		
Hydrogen	H2					X		
Hydrogen Bromide	HBr	X	X					
Hydrogen Chloride	HCl		X					
Hydrogen Fluoride	HF		X					
Hydrogen Sulfide	H2S	X				X		
Liquid Nitrogen	LN2						X	X
Liquid Oxygen	LO2			X			X	
Methane	CH4					X		
Methyl Chloride	CH3Cl					X		
Methylene Fluoride	CH2F2					X		
Methyl Fluoride	CH3F					X		
Methylsilane	CH3SiH3				X	X		
Neon	Ne							X
Nitrogen	N2							X
Nitrogen Trifluoride	NF3		X	X				
Nitrous Oxide	(NO)			X				X

TABLE 2 – REQUIRED PPE

REQUIRED PPE	SHIPPING/RECEIVING	TRANSPORTING	INSTALLING
Toxics (OSHA permissible Exposure Limit (PEL) <500 ppb)	Safety glasses / steel-toes shoes / gloves, leather	Safety glasses / steel-toes shoes	SCBA or airline respirator w/SKA-PAK / steel-toesshoes / gloves,chemical-resistant / arm-guards / apron orchemical resistant smock.
Corrosives	Safety glasses / steel-toes shoes / gloves, leather	Safety glasses / steel-toes shoes	SCBA or airline respirator w/SKA-PAK / steel-toesshoes / gloves,g

APPENIX 1 – CYLINDER TAGS

APPENDIX 2 - DEFECTIVE CYLINDER TAGS

REFERENCES

1. http://esh-docdb.fnal.gov/cgi-bin/RetrieveFile?docid=878&ver
2. http://www.ehs.iastate.edu/publications/manuals/gascylinder.pdf