

Pressure, Vacuum, and Cryogenic Systems: Requirements for Systems Containing Fluids with Health or Physical Hazards

Department: Chemical and General Safety

Program: Pressure, Vacuum, and Cryogenic Systems

Owner: Program Manager

Authority: ES&H Manual, Chapter 14, Pressure, Vacuum, and Cryogenic Systems¹

All pressure systems must be in conformance with the requirements of Chapter 14, and this exhibit provides the additional required information specific to systems containing fluids with health or physical hazards.

Unique Characteristics

Fluids with significant health or physical hazards include flammable gases and materials that are toxic, highly toxic, corrosive, oxidizing, unstable reactive, water reactive. The design, installation, use, and maintenance of systems containing such fluids may require consultation with the program manager to identify specific requirements based on the seriousness of the hazard.

Note Pressure systems that contain or convey such materials must be designed and installed with particular attention to the applicable state fire and mechanical codes.

Required Regulations, Codes, and Standards

In addition to those listed in Section 3, “Standards”, of Chapter 14, the following regulations, codes, and standards apply. In addition to the required codes listed below, certain gases may also be regulated locally under San Mateo County’s toxic gas ordinance. If you need further clarification, please contact the program manager.

Note Use the most current edition unless otherwise indicated.²

American Society of Mechanical Engineers (ASME) Standards

- ASME B31.3-2002, “Process Piping”

California Fire Code

- Chapter 27, “Hazardous Materials, General Provisions”

California Mechanical Code

- Chapter 14, “Process Piping”

1 *SLAC Environment, Safety, and Health Manual* (SLAC-I-720-0A29Z-001), Chapter 14, “Pressure, Cryogenic, and Vacuum Systems”, http://www-group.slac.stanford.edu/esh/hazardous_activities/pressure/policies.htm

2 See the “SLAC Research Library Community Pages”, <http://www-group.slac.stanford.edu/library/CommunityPages.asp>, for available standards.

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Related Documents

- CGC: Safety Requirements (SLAC-I-730-0A09S-027)³
- Hazardous Materials: Personal Protective Equipment Requirements (SLAC-I-730-0A09S-017)⁴
- Pressure, Vacuum, and Cryogenic Systems: Codes, Regulations, and Standards List (SLAC-I-730-0A21V-001)⁵

3 <http://www-group.slac.stanford.edu/esh/eshmanual/references/cgcReqSafety.pdf>

4 <http://www-group.slac.stanford.edu/esh/eshmanual/references/hazmatReqPPE.pdf>

5 <http://www-group.slac.stanford.edu/esh/eshmanual/references/pressureListStandards.pdf>