

§ 197.575 Observation of monitoring.

(a) Persons involved in benzene operations or their representatives must be provided with an opportunity to observe all monitoring in compliance with § 197.540. Coast Guard officials may also observe all monitoring in compliance with § 197.540.

(b) When observation of monitoring requires entry into regulated areas, the observers shall use respirator and personal protective clothing and equipment approved in compliance with this subpart and comply with § 197.530.

§ 197.580 Appendices.

(a) Appendices A through D and F of this subpart contain technical information on benzene and its effects and provide guidance for medical surveillance, monitoring, and measuring. The appendices are informational and advisory and do not create mandatory requirements.

(b) Appendix E of this subpart contains tests and procedures for fitting respirators. As required by § 197.550(d)(1), compliance with appendix E of this subpart is mandatory.

APPENDIX A TO SUBPART C OF PART 197—SAMPLE SUBSTANCE SAFETY DATA SHEET, BENZENE

I. Substance Identification

(a) *Substance:* Benzene.

(b) *Performance standard exposure limits:*

(1) *Airborne:* The maximum time-weighted average (TWA) exposure limit is one part of benzene vapor per million parts of air (one ppm) for an eight-hour workday and the maximum short-term exposure limit (STEL) is five ppm for any 15-minute period.

(2) *Dermal:* Eye contact must be prevented and skin contact with liquid benzene must be limited.

(c) *Appearance and odor:* Benzene is a clear, colorless liquid with a pleasant, sweet odor. The odor of benzene does not provide adequate warning of its hazard.

II. Health Hazard Data

(a) *Ways in which benzene affects your health.* Benzene can affect your health if you inhale it or if it comes in contact with your skin or eyes. Benzene is also harmful if you swallow it.

(b) *Effects of overexposure.* (1) *Short-term (acute) overexposure:* If you are overexposed to high concentrations of benzene, well above the levels where its odor is first recognizable, you may feel breathless, irritable,

euphoric, or giddy and you may experience irritation in your eyes, nose, and respiratory tract. You may develop a headache, feel dizzy, nauseated, or intoxicated. Severe exposures may lead to convulsions and loss of consciousness.

(2) *Long-term (chronic) exposure:* Repeated or prolonged exposure to benzene, even at relatively low concentrations, may result in various blood disorders ranging from anemia to leukemia, an irreversible, fatal disease. Many blood disorders associated with benzene exposure may occur without symptoms.

III. Protective Clothing and Equipment

(a) *Respirators.* Respirators are required for those operations in which engineering controls or work practice controls are not feasible for reducing exposure to the permissible level or are not chosen as the method of complying with the performance standard. If respirators are worn, they must have joint Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (NIOSH) seal of approval. Cartridges or canisters must be replaced before the end of their service life, or the end of the shift, whichever occurs first. If you experience difficulty breathing while wearing a respirator, you may request a positive pressure respirator from your employer. You must be thoroughly trained to use the assigned respirator, and the training will be provided by your employer.

(b) *Protective clothing.* You must wear appropriate protective clothing (such as boots, gloves, sleeves, and aprons) over any parts of your body that could be exposed to liquid benzene.

(c) *Eye and face protection.* You must wear splash-proof safety goggles if it is possible that benzene may get into your eyes. In addition, you must wear a face shield if your face could be splashed with benzene liquid.

IV. Emergency and First Aid Procedures

(a) *Eye and face exposure.* If benzene is splashed in your eyes, wash it out immediately with large amounts of water. If irritation persists or vision appears to be affected, see a doctor as soon as possible.

(b) *Skin exposure.* If benzene is spilled on your clothing or skin, remove the contaminated clothing and wash the exposed skin with large amounts of water and soap immediately. Wash contaminated clothing before you wear it again.

(c) *Breathing.* If you or any other person breathes in large amounts of benzene, get the exposed person to fresh air at once. Apply artificial respiration if breathing has stopped. Call for medical assistance or a doctor as soon as possible. Never enter any vessel or confined space where the benzene concentration might be high without proper safety equipment and with at least one other