

(i) The dates, number, duration, and results of each sample taken, and a description of the procedure used to determine representative personal exposures;

(ii) A description of the sampling and analytical methods used;

(iii) A description of the type of respirator and personal protective clothing and equipment worn, if any; and

(iv) The name, social security number, and job classification of each person monitored and of all other persons whose exposure the monitoring is intended to represent; and

(v) The exposure levels to which monitored persons were subjected, even if this level is below the PEL.

(b) *Medical record.* (1) The employer shall maintain an accurate medical record for each employee subjected to medical surveillance specified in § 197.560 for three years after the employee's employment is terminated.

(2) The record must include—

(i) The name and social security number of the employee;

(ii) The physician's written opinion on the initial, periodic, and special examinations of the employee, including the results of medical examinations and tests and all opinions and recommendations;

(iii) A list of medical complaints, if any, by the employee related to exposure to benzene;

(iv) A copy of the information provided to the physician required in § 197.560(f)(2) through (f)(5); and

(v) A copy of the employee's medical and work history related to exposure to benzene or other hematologic toxin.

(c) *Availability of records.* (1) All records required to be maintained by this section must be made available upon request to the Coast Guard.

(2) Records of personal exposure monitoring in compliance with (a) of this section must be provided upon request to persons involved in the operation.

(3) A copy of each item entered into the medical record in compliance with paragraph (b) of this section for a particular employee must be given to that employee at the time the item is entered into the medical record.

(4) Medical records required by paragraph (b) of this section must be pro-

vided to persons upon the written request of the subject employee.

(d) *Transfer of records.* (1) If the employer ceases to do business and there is no successor to receive and retain the records for the prescribed period, the employer shall make the best effort to transfer all records required in paragraphs (a) and (b) of this section relating to the affected employees to those employees for their disposition. Before transferring medical records to former employees, the employer shall determine whether any forwarding address provided by the employee is still valid and whether the employee desires the records. If a current or former employee refuses to accept the records or does not respond to notification of their availability, the records shall be destroyed.

(2) If the employer ceases to engage in operations involving benzene, the employer shall retain the records for inspection unless the employee requests them as provided in § 197.570(c).

(e) *Confidentiality of records.* Except as specifically required by this Subpart, the employer shall keep confidential all records required to be maintained by this Subpart.

§ 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 TO 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 person present who will stay outside. A life line should be used.

(d) *Swallowing.* If benzene has been swallowed and the subject is conscious, do not induce vomiting. Call for medical assistance or a doctor immediately.

V. Medical Requirements

If you will be exposed to benzene at a concentration at or above 0.5 ppm as an eight-hour time-weighted average or have been exposed at or above 10 ppm in the past while employed by your current employer, your employer may be required by 46 CFR 197.560 to provide a medical examination and history and laboratory tests. These tests must be provided without cost to you. In addition, if you are accidentally exposed to benzene (either by ingestion, inhalation, or skin/eye contact) under emergency conditions known or suspected to constitute a toxic exposure to benzene, your employer is required to make special laboratory tests available to you.

VI. Observation of Monitoring

The employer is required to conduct monitoring that is representative of your exposure to benzene, and you or your designated representative are entitled to observe the monitoring procedure. You are entitled to