

WAC 296-62-07342 1,2-Dibromo-3-chloropropane. (1) Scope and application.

(a) This section applies to occupational exposure to 1,2-dibromo-3-chloropropane (DBCP).

(b) This section does not apply to:

(i) Exposure to DBCP which results solely from the application and use of DBCP as a pesticide; or

(ii) The storage, transportation, distribution or sale of DBCP in intact containers sealed in such a manner as to prevent exposure to DBCP vapors or liquids, except for the requirements of subsections (11), (16), and (17) of this section.

(2) Definitions applicable to this section:

(a) **Authorized person.** Any person specifically authorized by the employer and whose duties require the person to be present in areas where DBCP is present; and any person entering this area as a designated representative of employees exercising an opportunity to observe employee exposure monitoring.

(b) **DBCP.** 1,2-dibromo-3-chloropropane, Chemical Abstracts Service Registry Number 96-12-8, and includes all forms of DBCP.

(c) **Director.** The director of labor and industries, or his authorized representative.

(d) **Emergency.** Any occurrence such as, but not limited to equipment failure, rupture of containers, or failure of control equipment which may, or does, result in unexpected release of DBCP.

(3) Permissible exposure limits.

(a) Inhalation.

(i) Time-weighted average limit (TWA). The employer must ensure that no employee is exposed to an airborne concentration in excess of one part DBCP per billion part of air (ppb) as an eight-hour time-weighted average.

(ii) Ceiling limit. The employer must ensure that no employee is exposed to an airborne concentration in excess of five parts DBCP per billion parts of air (ppb) as averaged over any fifteen minutes during the working day.

(b) Dermal and eye exposure. The employer must ensure that no employee is exposed to eye or skin contact with DBCP.

(4) Notification of use. Within ten days of the effective date of this section or within ten days following the introduction of DBCP into the workplace, every employer who has a workplace where DBCP is present must report the following information to the director for each such workplace:

(a) The address and location of each workplace in which DBCP is present;

(b) A brief description of each process or operation which may result in employee exposure to DBCP;

(c) The number of employees engaged in each process or operation who may be exposed to DBCP and an estimate of the frequency and degree of exposure that occurs;

(d) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to DBCP.

(5) Regulated areas. The employer must establish, within each place of employment, regulated areas wherever DBCP concentrations are in excess of the permissible exposure limit.

(a) The employer must limit access to regulated areas to authorized persons.

(b) All employees entering or working in a regulated area must wear respiratory protection in accordance with Table I.

(6) Exposure monitoring.

(a) General. Determinations of airborne exposure levels must be made from air samples that are representative of each employee's exposure to DBCP over an eight-hour period. (For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.)

(b) Initial. Each employer who has a place of employment in which DBCP is present must monitor each workplace and work operation to accurately determine the airborne concentrations of DBCP to which employees may be exposed.

(c) Frequency.

(i) If the monitoring required by this section reveals employee exposures to be below the permissible exposure limits, the employer must repeat these determinations at least quarterly.

(ii) If the monitoring required by this section reveals employee exposure to be in excess of the permissible exposure limits, the employer must repeat these determinations for each such employee at least monthly. The employer must continue these monthly determinations until at least two consecutive measurements, taken at least seven days apart, are below the permissible exposure limit, thereafter the employer must monitor at least quarterly.

(d) Additional. Whenever there has been a production process, control or personnel change which may result in any new or additional exposure to DBCP, or whenever the employer has any other reason to suspect a change which may result in new or additional exposure to DBCP, additional monitoring which complies with this subsection must be conducted.

(e) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer must notify each employee in writing of results which represent the employee's exposure.

(ii) Whenever the results indicate that employee exposure exceeds the permissible exposure limit, the employer must include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.

(f) Accuracy of measurement. The method of measurement must be accurate, to a confidence level of ninety-five percent, to within plus or minus twenty-five percent for concentrations of DBCP at or above the permissible exposure limits.

(7) Methods of compliance.

(a) Priority of compliance methods. The employer must institute engineering and work practice controls to reduce and maintain employee exposures to DBCP at or below the permissible exposure limit, except to the extent that the employer establishes that such controls are not feasible. Where feasible engineering and work practice controls are not sufficient to reduce employee exposures to within the permissible exposure limit, the employer must nonetheless use them to reduce exposures to the lowest level achievable by these controls, and must supplement them by use of respiratory protection.

(b) Compliance program.

(i) The employer must establish and implement a written program to reduce employee exposure to DBCP to or below the permissible exposure limit solely by means of engineering and work practice controls as required by this section.

(ii) The written program must include a detailed schedule for development and implementation of the engineering and work practice con-

trols. These plans must be revised at least every six months to reflect the current status of the program.

(iii) Written plans for these compliance programs must be submitted upon request to the director, and must be available at the workplace for examination and copying by the director, and any affected employee or designated representative of employees.

(iv) The employer must institute and maintain at least the controls described in his most recent written compliance program.

(8) Respiratory protection.

(a) General. For employees who are required to use respirators under this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(i) Period necessary to install or implement feasible engineering and work-practice controls;

(ii) Maintenance and repair activities for which engineering and work-practice controls are not feasible;

(iii) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limit;

(iv) Emergencies.

(b) The employer must establish, implement, and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(c) Respirator selection. The employer must:

(i) Select and provide to employees appropriate respirators according to this chapter and WAC 296-842-13005 in the respirator rule.

(ii) Provide employees with one of the following respirator options to use for entry into, or escape from, unknown DBCP concentrations:

(A) A combination respirator that includes a full-facepiece airline respirator operated in a pressure-demand or other positive-pressure mode or continuous-flow mode and an auxiliary self-contained breathing apparatus (SCBA) operated in a pressure-demand or positive-pressure mode; or

(B) A full-facepiece SCBA operated in a pressure-demand or other positive-pressure mode.

(9) Reserved.

(10) Emergency situations.

(a) Written plans.

(i) A written plan for emergency situations must be developed for each workplace in which DBCP is present.

(ii) Appropriate portions of the plan must be implemented in the event of an emergency.

(b) Employees engaged in correcting conditions must be equipped as required in subsection (11) of this section until the emergency is abated.

(c) Evacuation. Employees not engaged in correcting the emergency must be removed and restricted from the area and normal operations in the affected area must not be resumed until the emergency is abated.

(d) Alerting employees. Where there is a possibility of employee exposure to DBCP due to the occurrence of an emergency, a general alarm must be installed and maintained to promptly alert employees of such occurrences.

(e) Medical surveillance. For any employee exposed to DBCP in an emergency situation, the employer must provide medical surveillance in accordance with subsection (14) of this section.

(f) Exposure monitoring.

(i) Following an emergency, the employer must conduct monitoring which complies with subsection (6) of this section.

(ii) In workplaces not normally subject to periodic monitoring, the employer may terminate monitoring when two consecutive measurements indicate exposures below the permissible exposure limit.

(11) Protective clothing and equipment.

(a) Provision and use. Where eye or skin contact with liquid or solid DBCP may occur, employers must provide at no cost to the employee, and ensure that employees wear impermeable protective clothing and equipment in accordance with WAC 296-800-160 to protect the area of the body which may come in contact with DBCP.

(b) Cleaning and replacement.

(i) The employer must clean, launder, maintain, or replace protective clothing and equipment required by this subsection to maintain their effectiveness. In addition, the employer must provide clean protective clothing and equipment at least daily to each affected employee.

(ii) Removal and storage.

(A) The employer must ensure that employees remove DBCP contaminated work clothing only in change rooms provided in accordance with subsection (13) of this section.

(B) The employer must ensure that employees promptly remove any protective clothing and equipment which becomes contaminated with DBCP-containing liquids and solids. This clothing must not be reworn until the DBCP has been removed from the clothing or equipment.

(C) The employer must ensure that no employee takes DBCP contaminated protective devices and work clothing out of the change room, except those employees authorized to do so for the purpose of laundering, maintenance, or disposal.

(iii) The employer must ensure that DBCP-contaminated protective work clothing and equipment is placed and stored in closed containers which prevent dispersion of DBCP outside the container.

(iv) The employer must inform any person who launders or cleans DBCP-contaminated protective clothing or equipment of the potentially harmful effects of exposure to DBCP.

(v) Containers of DBCP-contaminated protective devices or work clothing which are to be taken out of change rooms or the workplace for cleaning, maintenance or disposal must bear labels with the following information: CONTAMINATED WITH 1,2-Dibromo-3-chloropropane (DBCP), MAY CAUSE CANCER.

(vi) The employer must prohibit the removal of DBCP from protective clothing and equipment by blowing or shaking.

(12) Housekeeping.

(a) Surfaces.

(i) All surfaces must be maintained free of accumulations of DBCP.

(ii) Dry sweeping and the use of air for the cleaning of floors and other surfaces where DBCP dust or liquids are found is prohibited.

(iii) Where vacuuming methods are selected, either portable units or a permanent system may be used.

(A) If a portable unit is selected, the exhaust must be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other ap-

appropriate means of contaminant removal, so that DBCP is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect DBCP may not be used for other cleaning purposes and must be labeled as prescribed by subsection (11)(b)(v) of this section.

(iv) Cleaning of floors and other contaminated surfaces may not be performed by washing down with a hose, unless a fine spray has first been laid down.

(b) Liquids. Where DBCP is present in a liquid form, or as a resultant vapor, all containers or vessels containing DBCP must be enclosed to the maximum extent feasible and tightly covered when not in use.

(c) Waste disposal. DBCP waste, scrap, debris, bags, containers or equipment, must be disposed in sealed bags or other closed containers which prevent dispersion of DBCP outside the container.

(13) Hygiene facilities and practices.

(a) Change rooms. The employer must provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment whenever employees are required to wear protective clothing and equipment in accordance with subsections (8), (9), and (11) of this section.

(b) Showers.

(i) The employer must ensure that employees working in the regulated area shower at the end of the work shift.

(ii) The employer must ensure that employees whose skin becomes contaminated with DBCP-containing liquids or solids immediately wash or shower to remove any DBCP from the skin.

(iii) The employer must provide shower facilities in accordance with WAC 296-800-230.

(c) Lunchrooms. The employer must provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(d) Lavatories.

(i) The employer must ensure that employees working in the regulated area remove protective clothing and wash their hands and face prior to eating.

(ii) The employer must provide a sufficient number of lavatory facilities which comply with WAC 296-800-230.

(e) Prohibition of activities in regulated areas. The employer must ensure that, in regulated areas, food or beverages are not present or consumed, smoking products and implements are not present or used, and cosmetics are not present or applied.

(14) Medical surveillance.

(a) General. The employer must institute a program of medical surveillance for each employee who is or will be exposed, without regard to the use of respirators, to DBCP. The employer must provide each such employee with an opportunity for medical examinations and tests in accordance with this subsection. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and must be provided without cost to the employee.

(b) Frequency and content. At the time of initial assignment, annually thereafter, and whenever exposure to DBCP occurs, the employer must provide a medical examination for employees who work in regulated areas, which includes at least the following:

(i) A complete medical and occupational history with emphasis on reproductive history.

(ii) A complete physical examination with emphasis on the genitourinary tract, testicle size, and body habitus including the following tests:

- (A) Sperm count;
- (B) Complete urinalysis (U/A);
- (C) Complete blood count; and
- (D) Thyroid profile.

(iii) A serum specimen must be obtained and the following determinations made by radioimmunoassay techniques utilizing National Institutes of Health (NIH) specific antigen or one of equivalent sensitivity:

- (A) Serum multiphasic analysis (SMA 12);
- (B) Serum follicle stimulating hormone (FSH);
- (C) Serum luteinizing hormone (LH); and
- (D) Serum estrogen (females).

(iv) Any other tests deemed appropriate by the examining physician.

(c) Additional examinations. If the employee for any reason develops signs or symptoms commonly associated with exposure to DBCP, the employer must provide the employee with a medical examination which must include those elements considered appropriate by the examining physician.

(d) Information provided to the physician. The employer must provide the following information to the examining physician:

- (i) A copy of this standard and its appendices;
- (ii) A description of the affected employee's duties as they relate to the employee's exposure;
- (iii) The level of DBCP to which the employee is exposed; and
- (iv) A description of any personal protective equipment used or to be used.

(e) Physician's written opinion.

(i) For each examination under this section, the employer must obtain and provide the employee with a written opinion from the examining physician which must include:

- (A) The results of the medical tests performed;
- (B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of health from exposure to DBCP;
- (C) Any recommended limitations upon the employee's exposure to DBCP or upon the use of protective clothing and equipment such as respirators; and
- (D) A statement that the employee was informed by the physician of the results of the medical examination, and any medical conditions which require further examination or treatment.

(ii) The employer must instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to DBCP.

(iii) The employer must provide a copy of the written opinion to the affected employee.

(f) Emergency situations. If the employee is exposed to DBCP in an emergency situation, the employer must provide the employee with a sperm count test as soon as practicable, or, if the employee is unable to produce a semen specimen, the hormone tests contained in (b) of this subsection. The employer must provide these same tests three months later.

(15) Employee information and training.

- (a) Training program.

(i) Within thirty days of the effective date of this standard, the employer must institute a training program for all employees who may be exposed to DBCP and must ensure their participation in such training program.

(ii) The employer must ensure that each employee is informed of the following:

(A) The information contained in Appendices A, B and C;

(B) The quantity, location, manner of use, release or storage of DBCP and the specific nature of operations which could result in exposure to DBCP as well as any necessary protective steps;

(C) The purpose, proper use, limitations, and other training requirements covering respiratory protection as required in chapter 296-842 WAC;

(D) The purpose and description of the medical surveillance program required by subsection (14) of this section; and

(E) A review of this standard.

(b) Access to training materials.

(i) The employer must make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer must provide, upon request, all materials relating to the employee information and training program to the director.

(16) Communication of hazards.

(a) Hazard communication - General.

(i) Chemical manufacturers, importers, distributors and employers must comply with all requirements of the Hazard Communication Standard (HCS), WAC 296-901-140 for DBCP.

(ii) In classifying the hazards of DBCP at least the following hazards are to be addressed: Cancer; reproductive effects; liver effects; kidney effects; central nervous system effects; skin, eye and respiratory tract irritation; and acute toxicity effects.

(iii) Employers must include DBCP in the hazard communication program established to comply with the HCS, WAC 296-901-140. Employers must ensure that each employee has access to labels on containers of DBCP and to safety data sheets, and is trained in accordance with the requirements of HCS and subsection (15) of this section.

(iv) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to or in combination with, signs and labels required by this subsection.

(v) The employer must ensure that no statement appears on or near any sign or label required by this subsection which contradicts or detracts from the required sign or label.

(b) Signs.

The employer must post signs to clearly indicate all regulated areas. These signs must bear the legend:

DANGER
1,2-Dibromo-3-chloropropane
MAY CAUSE CANCER
WEAR RESPIRATORY PROTECTION IN THIS AREA
AUTHORIZED PERSONNEL ONLY

(c) Labels.

(i) Where DBCP or products containing DBCP are sold, distributed or otherwise leave the employer's workplace bearing appropriate labels required by EPA under the regulations in 40 C.F.R. Part 162, the labels required by (c) of this subsection need not be affixed.

(ii) The employer must ensure that the precautionary labels required by (c) of this subsection are readily visible and legible.

(17) Recordkeeping.

(a) Exposure monitoring.

(i) The employer must establish and maintain an accurate record of all monitoring required by subsection (6) of this section.

(ii) This record must include:

(A) The dates, number, duration and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

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

(C) Type of respiratory worn, if any; and

(D) Name, Social Security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer must maintain this record for at least forty years or the duration of employment plus twenty years, whichever is longer.

(b) Medical surveillance.

(i) The employer must establish and maintain an accurate record for each employee subject to medical surveillance required by subsection (14) of this section.

(ii) This record must include:

(A) The name and Social Security number of the employee;

(B) A copy of the physician's written opinion;

(C) Any employee medical complaints related to exposure to DBCP;

(D) A copy of the information provided the physician as required by subsection (14)(c) of this section; and

(E) A copy of the employee's medical and work history.

(iii) The employer must maintain this record for at least forty years or the duration of employment plus twenty years, whichever is longer.

(c) Availability.

(i) The employer must ensure that all records required to be maintained by this section be made available upon request to the director for examination and copying.

(ii) Employee exposure monitoring records and employee medical records required by this subsection must be provided upon request to employees' designated representatives and the assistant director in accordance with chapter 296-802 WAC.

(d) Transfer of records.

(i) If the employer ceases to do business, the successor employer must receive and retain all records required to be maintained by this section for the prescribed period.

(ii) The employer must also comply with any additional requirements involving transfer of records set forth in WAC 296-802-60005.

(18) Observation of monitoring.

(a) Employee observation. The employer must provide affected employees, or their designated representatives, an opportunity to observe any monitoring of employee exposure to DBCP conducted under subsection (6) of this section.

(b) Observation procedures.

(i) Whenever observation of the measuring or monitoring of employee exposure to DBCP requires entry into an area where the use of protective clothing or equipment is required, the employer must provide the observer with personal protective clothing or equipment re-

quired to be worn by employees working in the area, ensure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring or measurement, observers shall be entitled to:

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the measurement of airborne concentrations of DBCP performed at the place of exposure; and

(C) Record the results obtained.

(19) Appendices. The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 19-01-094, § 296-62-07342, filed 12/18/18, effective 1/18/19. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-62-07342, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and chapter 49.17 RCW. WSR 12-24-071, § 296-62-07342, filed 12/4/12, effective 1/4/13. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 09-15-145, § 296-62-07342, filed 7/21/09, effective 9/1/09; WSR 07-05-072, § 296-62-07342, filed 2/20/07, effective 4/1/07; WSR 05-03-093, § 296-62-07342, filed 1/18/05, effective 3/1/05; WSR 04-10-026, § 296-62-07342, filed 4/27/04, effective 8/1/04; WSR 03-18-090, § 296-62-07342, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. WSR 01-11-038, § 296-62-07342, filed 5/9/01, effective 9/1/01; WSR 99-10-071, § 296-62-07342, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. WSR 96-09-030, § 296-62-07342, filed 4/10/96, effective 6/1/96; WSR 88-11-021 (Order 88-04), § 296-62-07342, filed 5/11/88.]