

WAC 296-62-50025 Engineering controls. (1) Evaluate and implement appropriate engineering controls to eliminate or minimize employee exposure. Examples of engineering controls include, but are not limited to:

- (a) Closed system transfer devices.
- (b) Safer sharps devices.
- (c) Safety interlocks.
- (d) Ventilated cabinets.
- (2) Ventilated cabinets.

(a) Prepare (e.g., mix, compound, crush) hazardous drugs inside an appropriate ventilated cabinet or barrier isolators designed to prevent worker exposure.

(i) Alternate precautions may be used where the hazard assessment determines a low occupational exposure risk while preparing hazardous drugs other than chemotherapy agents (e.g., crushing and splitting tablets, drawing medication into a syringe). These may include, but are not limited to, temporarily designating a preparation area, use of appropriate personal protective equipment, and instituting cleaning procedures.

(ii) Chemotherapy drugs must be prepared in an appropriate ventilated cabinet with the exception of circumstances where the employer can document evidence of a clinical need (e.g., there is a nonroutine need to provide chemotherapy treatment, compounding services are not readily available, and it is in the best interest of the patient to provide local care). In such circumstances alternate precautions must be instituted as described above.

(b) Hazardous drugs that volatilize must be handled only in a ventilated cabinet that captures the volatilized material to prevent employee exposure, or in a ventilated cabinet that does not recirculate air inside the cabinet or exhausts air back into the room environment.

(c) Install and maintain the ventilation equipment determined by your hazard assessment in accordance with:

- (i) The ventilation equipment manufacturer's design, instructions, and precautions;
- (ii) Appropriate and most current national safety and industry standards.

Note: The following are examples of industry standards related to installing and maintaining ventilation equipment. There may be other industry standards in addition to those listed below:

(A) Center for Disease Control/National Institute for Health: Primary Containment for Biohazards: Selection, Installation and Use of Biological Safety Cabinets (CDC/NIH).

(B) National Sanitation Foundation/American National Standards Institute Standard 49, (NSF/ANSI) Class II (laminar flow) Biosafety Cabinetry.

- (C) U.S. Pharmacopeial Convention (USP).
- (D) American Glove Box Standards.

(iii) National Institute of Occupational Safety and Health (NIOSH) "Preventing Occupational Exposure to Antineoplastic and Other Hazardous Drugs in Health Care Settings"; and

- (iv) Applicable state, federal, and local regulations.

(d) Develop and implement maintenance and cleaning procedures that ensure the effectiveness and safety of the ventilated cabinet.

(i) Field-certify biosafety cabinet performance, in accordance with National Sanitation Foundation/American National Standards Institute Standard 49, after installation, relocation, maintenance, repairs

to internal components, HEPA filter replacement, and every six months thereafter or as recommended by the manufacturer.

(ii) Select appropriate performance and test methods for isolators, depending on the type (containment only or aseptic containment), the operating pressure (positive or negative and designed magnitude), and toxicity of the hazardous drug. At a minimum, conduct leak and containment integrity tests in accordance with current American Glove-box Society guidelines. In addition perform a HEPA filter leak test for those isolators that utilize HEPA filtration.

(iii) Prominently display a current field-certification label on the ventilated cabinet.

(iv) Make sure that workers performing maintenance are familiar with applicable safety procedures, warned about hazards (e.g., through the provision of material safety data sheet or other equivalent information resources), and trained in appropriate work techniques and PPE needed to minimize exposure.

(v) Remove all hazardous drugs and chemicals, and decontaminate the ventilated cabinet before beginning maintenance activities.

(vi) Notify occupants in the affected areas immediately before the maintenance activity begins, and place warning signs on all affected equipment.

(vii) Deenergize the ventilated cabinet in accordance with chapter 296-803 WAC, Lockout/Tagout (control of hazardous energy).

(viii) Decontaminate and bag equipment parts removed for replacement or repair before they are taken outside the facility.

(ix) Seal used filtration media in plastic immediately upon removal, and dispose as contaminated waste.

Note: Consult the following documents for performance test methods and selection criteria for ventilated cabinets:
(1) *Primary Containment for Biohazards: Selection, Installation and Use of Biological Safety Cabinets (CDC/NIH)*.
(2) *NSF/ANSI 49, Class II (laminar flow) Biosafety Cabinetry*.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 16-10-083, § 296-62-50025, filed 5/3/16, effective 6/3/16. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and 2011 c 39. WSR 12-02-053, § 296-62-50025, filed 1/3/12, effective 1/1/14 and (2) effective 1/1/15.]