

USP 800 Deactivation/Decontamination/Cleaning Recommendations

Per current USP 800 guidelines, all areas where hazardous drugs (HDs) are handled and all reusable equipment and devices that come into contact with HDs must be deactivated, decontaminated, and cleaned. For sterile compounding with hazardous drugs, in addition to these steps, you must also disinfect sterile compounding areas, equipment, and devices. See below that expands upon table 5 from current USP 800 guidelines.

Cleaning Step	Purpose	Example Agents
Deactivation	This step is intended to render HDs inert or inactive	The guideline specifies agents as listed in HD labeling and references peroxide formulations or sodium hypochlorite. Consider using a product that notes it has been studied and found effective for deactivation. Examples commonly recommend include: PeridoxRTU (Contec) ¹ Sodium Hypochlorite (Clorox) ² Hydrogen Peroxide (Clorox) ²
Decontamination	This step is intended to remove HD residue	The guideline specifies that this must be a material that has been validated to be effective for HD decontamination or proved effective through testing. Examples include: PeridoxRTU (Contec) ¹ Isopropyl Alcohol 70% Peroxide Sodium hypochlorite
Cleaning	This step is intended to remove organic and inorganic material	The guideline just specifies that this be a germicidal detergent. Examples include: Soap and water PeridoxRTU ¹
Disinfection (required for sterile hazardous compounding)	This step is intended to destroy microorganisms	The guideline specifies EPA registered disinfectant and/or sterile alcohol. Examples include: Sterile Isopropyl Alcohol 70%

Various concentrations are available for use for sodium hypochlorite and hydrogen peroxide. Sodium hypochlorite has been studied at a range of 0.5-2%. One study of sodium hypochlorite at 2% found it effective at removing cyclophosphamide from BSC contaminated workbenches.³ Another study evaluating the efficacy of several agents as decontamination solutions found sodium hypochlorite 0.5% to be effective for 23 tested antineoplastic drugs, as well as hydrogen peroxide 5%. The study concluded that sodium hypochlorite is the best decontaminant after standard application.⁴

1. Contec offers information stating that PeridoxRTU (hydrogen peroxide 4.4% among other ingredients) as an EPA registered product that is a cleaner and disinfectant. It meets the definition of a germicidal detergent
2. Clorox offers information stating that some of their products, for example, Clorox Healthcare Bleach Germicidal Wipes (sodium hypochlorite 0.55% among other ingredients) and Clorox HealthCare Hydrogen Peroxide Cleaner Disinfectant Wipes are EPA-registered as disinfectants and oxidizers and also meet criteria for germicidal detergents
3. Adé A, Chauchat L, Frève JO, Gagné S, Caron N, Bussi res JF. Comparison of Decontamination Efficacy of Cleaning Solutions on a Biological Safety Cabinet Workbench Contaminated by Cyclophosphamide. Can J Hosp Pharm. 2017;70(6):407-414. doi:10.4212/cjhp.v70i6.1708
4. Simon N, Guichard N, Odou P, Decaudin B, Bonnabry P, Fleury-Souverain S. Efficiency of four solutions in removing 23 conventional antineoplastic drugs from contaminated surfaces. PLoS One. 2020;15(6):e0235131. Published 2020 Jun 22. doi:10.1371/journal.pone.0235131