

# USP800

Personal Protective  
Equipment



# PPE & Engineering Controls

For working with NIOSH hazardous drugs in healthcare settings



Double Chemo-  
therapy gloves

Protective  
Gown

Eye / Face  
Protection

Respiratory  
Protection

Ventilated  
Engineering Control

- This guidance applies to the drugs in Tables 1–3. For more detailed information on safe-handling practices, see the reference list [NIOSH 2004; ASHP 2006; ONS 2011; USP 2016; OSHA 2016].
- For nonsterile preparations, a ventilated engineering control such as a fume hood or Class I BSC or a HEPA-filtered enclosure (such as a powder hood) is sufficient if the control device exhaust is HEPA filtered or appropriately exhausted to the outside of the building. It is recommended that these activities be carried out in a control device, but it is recognized that under some circumstances, it is not possible. If the activity is performed in a ventilated engineering control that is used for sterile intravenous preparations, a thorough cleaning is required following the activity.
- Required if patient may resist (infant, unruly patient, patient pre-disposed to spitting out, patient who has difficulty swallowing, veterinary patient) or if the formulation is hard to swallow. (●)
- Sterile gloves are required for aseptic drug preparation in BSC or CACI.



**NO** Not required



**YES** This is required

Formulation	Activity	Gloves	Gown	Eye/Face	Respiratory	Ventilation
All types of hazardous drugs	Receiving, unpacking, and placing in storage	 (single glove can be used, unless spills occur)	 when spills and leaks occur		 when spills and leaks occur	
Intact tablet or capsule	Administration from unit-dose package	 (single glove can be used)				N/A
Tablets or capsules	Cutting, crushing, or manipulating tablets or capsules; handling uncoated tablets				 if not done in a control device	

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**NO** Not required



**YES** This is required

Formulation	Activity	Gloves	Gown	Eye/Face	Respiratory	Ventilation
Tablets or capsules	Administration	 (single glove can be used)		 if vomit or potential to spit up	 when spills and leaks occur	N/A
	Compounding			 if not done in a control device	 if not done in a control device	
Oral liquid drug or feeding tube	Administration			 if vomit or potential to spit up		N/A
	Compounding			 if not done in a control device	 if not done in a control device	 BSC or CACI (Note: carmustine and mustargen are volatile)
	Administration			 if liquid that could splash	 if inhalation potential	N/A
Topical drug	Preparation (withdrawing from vial)			 if not done in a control device	 if not done in a control device	 BSC or CACI
	Administration from prepared syringe			 if liquid that could splash		N/A
	Administration from prepared syringe			 if liquid that could splash		N/A
Subcutaneous/ intra-muscular injection from a vial	Preparation (withdrawing from vial)			 if not done in a control device	 if not done in a control device	 BSC or CACI
	Administration from prepared syringe			 if liquid that could splash		N/A

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**NO** Not required



**YES** This is required

Formulation	Activity	Gloves	Gown	Eye/Face	Respiratory	Ventilation
Withdrawing and/or mixing intravenous or intramuscular solution from a vial or ampoule	Compounding	 (single glove can be used)				 BSC or CACI; use of CSTD recommended
	Administration of prepared solution			 if liquid that could splash		 N/A; CSTD required per USP 800 if the dosage form allows
Solution for irrigation	Compounding			 if not done in a control device	 if not done in a control device	 BSC or CACI; use of CSTD recommended
	Administration (bladder, HIPEC, limb perfusion.)					N/A
Powder/solution for inhalation/ aerosol treatment	Compounding			 if not done in a control device	 if not done in a control device	 BSC or CACI
	Aerosol administration					 When applicable
	Administration			 if liquid that could splash	 if inhalation potential	N/A

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**NO** Not required



**YES** This is required

Formulation	Activity	Gloves	Gown	Eye/Face	Respiratory	Ventilation
Drugs and metabolites in body fluids  Drug-contaminated waste  Spills	Disposal and cleaning	 (single glove can be used)		 if liquid that could splash	 if inhalation potential	 N/A
	Disposal and cleaning			 if liquid that could splash		 N/A; CSTD required per USP 800 if the dosage form allows
	Cleaning			 if not done in a control device	 if not done in a control device	 BSC or CACI; use of CSTD recommended