

Pharmacy Guideline for Handling Hazardous Drugs

Handling Categories			
Low: Handle using normal precautions and single chemo gloves*			
Moderate: Handle using double chemo gloves.* Protective gown and eye and/or inhalation protection if splash or inhalation potential			
High: Handle using double chemo gloves* and gown. Eye protection if splash potential. For Pharmacy, compound using necessary primary engineering controls			
* ASTM 6978 rated gloves	†Do not alter	‡Special Handling. Contact Pharmacy	Grey indicates non-formulary medication

Generic Drug Name (Brand Name)	NIOSH Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Abacavir (Ziagen)	Non-Antineoplastic	Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
Ado-trastuzumab emtasine (Kadcyla)	Antineoplastic	Injection	High	High	
Afatinib (Gilortif)	Antineoplastic	Tablet	Low†	Low†	
Anastrozole (Arimidex)	Antineoplastic	Tablet	Low†	Low†	
Arsenic trioxide (Trisenox)	Antineoplastic	Injection	High	High	IARC Group 1 carcinogen
AzaCITIDine (Vidaza)	Antineoplastic	Injection	High	High	IARC Group 2A carcinogen
AzaTHIOprine (Imuran)	Non-Antineoplastic	Tablet	Low	Low†	IARC Group 1 carcinogen
		Altered Tablet	Low‡	Low‡	
		Oral Compound	Moderate	Low	
Bacillus Calmette Guerin (BCG; Tice)	Antineoplastic	Bladder Irrigation	High	High	See policy AC.17
Bendamustine (Treanda)	Antineoplastic	Injection	High	High	
Bicalutamide (Casodex)	Antineoplastic	Tablet	Low	Low†	
		Altered Tablet	Moderate‡	Moderate‡	
Bleomycin (Blenoxane)	Antineoplastic	Injection	High	High	IARC Group 2B carcinogen; Wear PPE when handling patient urine for 3 days after administration
Bortezomib (Velcade)	Antineoplastic	Injection	High	High	
Bosutinib (Bosulif)	Antineoplastic	Tablet	Low†	Low†	
Brentuximab vedotin (Adcetris)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine/feces for 7 days after administration
Busulfan (Myleran)	Antineoplastic	Tablet	Low†	Low†	IARC Group 1 carcinogen
Cabazitaxel (Jevtana)	Antineoplastic	Injection	High	High	
Cabergoline (Dostinex)	Reproductive Risk	Tablet	Low	Low	

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Capecitabine (Xeloda)	Antineoplastic	Tablet	Low†	Low†	Wear PPE when handling patient urine for 2 days and feces for 5 days
CarBAMazepine (TEGretol)	Non-Antineoplastic	Tablet	Low†	Low†	Boxed Warning
		Oral Liquid	Low	Low	
Carboplatin (Paraplatin)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days after administration
Carfilzomib (Kyprolis)	Antineoplastic	Injection	High	High	
Carmustine (BiCNU)	Antineoplastic	Injection	High	High	IARC Group 2A Carcinogen
Chlorambucil (Leukeran)	Antineoplastic	Tablet	Low†	Low†	IARC Group 1 carcinogen
Choriogonado-tropin (Ovidrel)	Reproductive Risk	Injection	Low	Low	
Cidofovir (Vistide)	Non-Antineoplastic	Injection	High	High	
CISplatin (Platinol)	Antineoplastic	Injection	High	High	IARC Group 2A carcinogen; Wear PPE when handling urine for 7 days after administration
Cladribine (Lesutatin)	Antineoplastic	Injection	High	High	
Clofarabine (Clolar)	Antineoplastic	Injection	High	High	
Clonazepam (Klonopin)	Reproductive Risk	Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
		Oral Compound	Moderate	Low	
Colchicine (Colcrys)	Reproductive Risk	Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
Cyclophosphamide(Cytoxan)	Antineoplastic	Tablet	Low†	Low†	IARC Group 1 cardinogen; Wear PPE when handling patient urine for 5 days after administration
		Injection	High	High	
Cyclosporine (Gengraph, Neoral, SandIMMUNE, Restasis)	Non-Antineoplastic	Capsule	Low†	Low†	IARC Group 1 carcinogen
		Oral Liquid	Low	Low	
		Injection	Moderate	Moderate	
		Ophthalmic	Moderate	Low	
Cytarabine (Cytostar)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 1 day after administration
Dacarbazine (DTIC)	Antineoplastic	Injection	High	High	IARC Group 2B carcinogen; Wear PPE when handling patient urine for 1 day after administration
DACTINomycin (Cosmegen)	Antineoplastic	Injection	High	High	

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Dasatinib (Sprycel)	Antineoplastic	Tablet	Low†	Low†	
Daunorubicin (Cerubidine)	Antineoplastic	Injection	High	High	IARC Group 2B carcinogen; Wear PPE when handling patient urine/feces for 7 days after administration
Decitabine (Dacogen)	Antineoplastic	Injection	High	High	
Degarelix (Firmagon)	Antineoplastic	Injection	High	High	
Dexrazoxane (Zinecard)	Non-Antineoplastic	Injection	High	High	
Dinoprostone (Cervidil)	Reproductive Risk	Vaginal Insert	Low	Low	
Divalproex sodium (Depakote, Depakote Sprinkles)	Non-Antineoplastic	Tablet	Low†	Low†	Boxed Warning. •Depakote sprinkle capsules can be opened for administration.
		Capsule	Low	Low	
		Altered Capsule•	Low	Low	
DOCEtaxel (Taxotere)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine and feces for 7 days after administration
DOXOrubicin (Adriamycin)	Antineoplastic	Injection, TACE beads	High	High	IARC Group 2A Carcinogen; Wear PPE when handling patient urine for 6 days and feces for 7 days after administration
DOXOrubicin Lipid (Doxil)	Antineoplastic	Injection	High	High	IARC Group 2A Carcinogen; Wear PPE when handling patient urine for 6 days and feces for 7 days after administration
Dronedarone (Multaq)	Reproductive Risk	Tablet	Low†	Low†	
Dutasteride (Avadart)	Reproductive Risk	Capsule	Low†	Low†	
EpiRUBicin (Ellence)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine and feces for 3 days after administration
EriBULin (Halaven)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine and feces for greater than 40 hours
Eroltinib (Tarceva)	Antineoplastic	Tablet	Low†	Low†	
Estradiol (Estrace)	Non-Antineoplastic	Tablet	Low	Low†	Boxed Warning
		Altered Tablet	Low‡	Low‡	
		Topical	Low	Low	
Estradiol (Climara)	Non-Antineoplastic	Topical	Low	Low	Boxed Warning
Estradiol valerate (Delestrogen)	Non-Antineoplastic	Injection	Low	Low	Boxed Warning

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Estrogens, conjugated (Premarin)	Non-Antineoplastic	Tablet	Low	Low†	Boxed Warning
		Altered Tablet	Low‡	Low‡	
		Topical	Low	Low	
		Injection	Low	Low	
Estrogens Methyltestost-erone (Estratest)	Non-Antineoplastic	Tablet	Low†	Low†	Boxed Warning
Etoposide (Vepesid)	Antineoplastic	Capsule	Low†	Low†	IARC Group 1 carcinogen; Wear PPE when handling patient urine and feces for 5 days after administration
		Injection	High	High	
Etoposide phosphate (Etopophos)	Antineoplastic	Injection	High	High	IARC Group 1 carcinogen; Wear PPE when handling patient urine and feces for 5 days after administration
Everolimus (Afinitor)	Antineoplastic	Tablet	Low†	Low†	
Finasteride (Proscar)	Reproductive Risk	Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
Fingolimod (Gilenya)	Non-Antineoplastic	Capsule	Low†	Low†	
Fluconazole (Diflucan)	Reproductive Risk	Tablet	Low	Low	
		Oral Liquid	Low	Low	
		Injection	Moderate	Low	
Fludarabine (Fludara)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days and feces for 5 days after administration
Fluorouracil (Aducil)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days and feces for 5 days after administration
Flurouracil (Efudex)	Antineoplastic	Topical	Low	Moderate	
Flutamide (Eulexin)	Antineoplastic	Capsule	Low†	Low†	
Fosphenytoin (Cerebyx)	Non-Antineoplastic	Injection	Moderate	Low	
Fulvestrant (Faslodex)	Antineoplastic	Injection	Low†	High	
Ganciclovir (Cytovene)	Non-Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days after administration
Gemcitabine (Gemzar)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 7 days after administration
Gonadotropin, chorionic (Novarel,Pregnyl)	Reproductive Risk	Injection	Moderate	Moderate	

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Goserelin (Zoladex)	Antineoplastic	Injection	Low†	High	
Hydroxyurea (Hydrea)	Antineoplastic	Capsule	Low	Low†	
		Oral Compound	High	Moderate	
IDArubicin (Idamycin)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 3 days and feces for 2 days after administration
Ifosfamide (Ifex)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days after administration
Imatibin (Gleevac)	Antineoplastic	Tablet	Low	Low†	Wear PPE when handling patient urine and feces for 7 days after administration
		Altered Tablet	Moderate‡	Moderate‡	
Irinotecan (Camptosar)	Antineoplastic	Injection, TACE beads	High	High	Wear PPE when handling patient urine and feces for 7 days after administration
Ixabepilone (Ixempra)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine and feces for 7 days after administration
Ixazomib (Ninlaro)	Antineoplastic	Capsule	Low†	Low†	
Leflunomide (Arava)	Antineoplastic	Tablet	Low†	Low†	
Lenalidomide (Revlimid)	Non-Antineoplastic	Capsule	Low†	Low†	Boxed Warning
Letrozole (Femara)	Antineoplastic	Tablet	Low†	Low†	
Leuprolide (Lupron, Eligard)	Antineoplastic	Injection	High	High	
Levonorgestrel (Plan B, Kyleena, Liletta, Mirena)	Non-Antineoplastic	Tablet	Low†	Low†	
		Intrauterine insert	Low	Low	
Liraglutide (Victoza)	Non-Antineoplastic	Injection	Low	Moderate	Boxed Warning
Medroxy-PROGESTERone (Provera, Depo-Provera pre-filled syringe)	Non-Antineoplastic	Tablet	Low	Low†	IARC Group 2B carcinogen
		Altered Tablet	Low‡	Low‡	
		Injection	Low	Low	
Megestrol (Megace)	Antineoplastic	Tablet	Low	Low	
		Oral Liquid	Low	Moderate	
Melphalan (Alkeran)	Antineoplastic	Tablet	Low	Low†	IARC Group 1 carcinogen; Wear PPE when handling patient urine for 2 days and feces for 7 days
		Altered Tablet	Moderate‡	Moderate‡	
		Injection	High	Moderate	
Mercaptopurine (Puriethol)	Antineoplastic	Tablet	Low	Low†	Wear PPE when handling patient urine for 2 days and feces for 5 days after administration
		Altered Tablet	Moderate‡	Moderate‡	

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Methimazole (Tapazole)	Non-Antineoplastic	Tablet	Low	Low	
		Altered Tablet	Low‡	Low‡	
Methotrexate (Folex)	Antineoplastic	Tablet	Low	Low†	Wear PPE when handling patient urine for 3 days and feces for 7 days after administration. See policy 100.263 Intramuscular Methotrexate for Ectopic Pregnancy.
		Altered Tablet	Moderate‡	Moderate‡	
		Injection	High	High	
Methylergonovine (Methergine)	Reproductive Risk	Injection	Low	Low	
miSOPROStol (Cytotec)	Reproductive Risk	Tablet	Low	Low	
MitoMYCIN C (Mutamycin)	Antineoplastic	Injection	High	High	IARC Group 2B carcinogen; Wear PPE when handling patient urine/feces for 1 day after administration
		Bladder Irrigation	High	High	
Mitotane (Lysodren)	Antineoplastic	Tablet	Low	Low	
		Altered Tablet	Moderate‡	Moderate‡	
MitoXANTRONE (Novantrone)	Antineoplastic	Injection	High	High	IARC Group 2B Carcinogen; Wear PPE when handling patient urine for 6 days and feces for 7 days after administration
Mycophenolate mofetil (Cellcept)	Non-Antineoplastic	Capsule	Low†	Low†	Boxed Warning
		Tablet	Low†	Low†	
Mycophenolate sodium (Myfortic)	Non-Antineoplastic	Tablet	Low†	Low†	Boxed Warning
		Injection	High	Moderate	
Nevirapine (Viramune)	Non-Antineoplastic	Oral Liquid	Low	Low	
Nilotinib (Tasigna)	Antineoplastic	Capsule	Low†	Low†	
Omacetaxine (Synribo)	Antineoplastic	Injection	High	High	
Ospemifene (Osphena)	Non-Antineoplastic	Tablet	Low	Low	Boxed Warning
Oxaliplatin (Eloxatin)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 3 days after administration
Oxcarbazepine (Trileptal)	Non-Antineoplastic	Tablet	Low†	Low†	
		Oral Liquid	Low	Low	
Oxytocin (Pitocin)	Reproductive Risk	Injection	Low*	Low*	*Hazardous only for women in third trimester
PAClitaxel (Taxol, Onxol)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days and feces for 2 days after administration

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PACLitaxel protein bound (Abraxane)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days and feces for 2 days after administration
Pamidronate (Aredia)	Reproductive Risk	Injection	Moderate	Moderate	
Paroxetine (Paxil CR)	Reproductive Risk	Tablet	Low†	Low†	
Paroxetine (Paxil)	Reproductive Risk	Tablet	Low	Low	
		Altered Tablet	Low‡	Low‡	
Pasireotide (Signifor)	Reproductive Risk	Injection	Moderate	Moderate	
PAZOPanib (votrient)	Antineoplastic	Tablet	Low†	Low†	
PEMEtrexed (Alimta)	Antineoplastic	Injection	High	High	
Pentostatin (Nipent)	Antineoplastic	Injection	High	High	
Pertuzumab (Perjeta)	Antineoplastic	Injection	High	High	Boxed Warning
Phenoxybenz-amine	Non-Antineoplastic	Capsule	Low	Low	
Phenytoin (Dilantin)	Non-Antineoplastic	Oral Liquid	Low	Low	IARC Group 2B carcinogen
		Injection	Moderate	Moderate	
		Capsule	Low†	Low†	
Pomalidomide (Pomalyst)	Antineoplastic	Capsule	Low†	Low†	
PRALatrexate (Folotyn)	Antineoplastic	Injection	High	High	
Procarbazine (Matulane)	Antineoplastic	Capsule	Low†	Low†	IARC Group 2A carcinogen; Wear PPE when handling patient urine for 3 days after administration
Progesterone (Prometrium)	Non-Antineoplastic	Capsule	Low†	Low†	IARC Group 2B
Propylthiouracil	Non-Antineoplastic	Tablet	Low	Low†	IARC Group 2B carcinogen
		Altered Tablet	Low‡	Low‡	
Raloxifene (Evista)	Non-Antineoplastic	Tablet	Low†	Low†	
Rasagiline (Azilect)	Non-Antineoplastic	Tablet	Low	Low	
Ribociclib (Kisqali)	Antineoplastic	Tablet	Low†	Low†	
Ribavirin (Rebetol)	Reproductive Risk	Capsule	Low†	Low†	
Ribavirin (Copegus)	Reproductive Risk	Tablet	Low†	Low†	
RomiDEPsin (Istodax)	Antineoplastic	Injection	High	High	
Sirolimus (Rapamune)	Non-Antineoplastic	Tablet	Low†	Low†	
SORafenib (NexAVAR)	Antineoplastic	Tablet	Low†	Low†	

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Spironolactone (Aldactone)	Non-Antineoplastic	Tablet	Low†	Low†	Boxed Warning
		Oral Compound	Moderate	Low	
Streptozocin (Zanosar)	Antineoplastic	Injection	High	High	IARC Group 2B carcinogen
SUNitinib (Sutent)	Antineoplastic	Capsule	Low†	Low†	
Tacrolimus (Prograf)	Non-Antineoplastic	Capsule	Low	Low†	
		Oral Compound	Moderate	Low	
		Injection	Moderate	Moderate	
Tamoxifen (Nolvadex)	Antineoplastic	Tablet	Low	Low†	IARC Group 1 carcinogen
		Altered Tablet	Moderate‡	Moderate‡	
Temazepam (Restoril)	Reproductive Risk	Capsule	Low†	Low†	
Temozolomide (Temodar)	Antineoplastic	Capsule	Low†	Low†	
		Injection	High	Moderate	
Temsirolimus (Torisel)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine and feces for 14 days after administration
Teniposide (Vumon)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 5 days after administration
Testosterone cypionate (Depo-testosterone)	Reproductive Risk	Injection	Moderate	Moderate	
Testosterone (Androgel, Androderm)	Reproductive Risk	Topical	Low	Moderate	
Thalidomide (Thalomid)	Non-Antineoplastic	Capsule	Low†	Low†	
Thioguanine (Tabloid)	Antineoplastic	Tablet	Low	Low†	
		Oral Compound	High	Moderate	
Thiotepa	Antineoplastic	Injection	High	High	IARC Group 1 carcinogen; Wear PPE when handling patient urine and feces for 3 days after administration
Topiramate (Topamax)	Reproductive Risk	Sprinkle Capsule	Low	Low	
Topotecan (Hycamtin)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 2 days after administration
Tretinoin (Retin-A)	Reproductive Risk	Capsule	Low†	Low†	Boxed Warning
		Topical	Low	Moderate	
Trifluridine Tipiracil(Lonsurf)	Antineoplastic	Tablet	Low†	Low†	

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Ulipristal (Ella)	Reproductive Risk	Tablet	Low†	Low†	
ValGANciclovir (Valcyte)	Non-Antineoplastic	Tablet	Low	Low	Boxed Warning
		Altered Tablet	Low‡	Low‡	
Valproic acid (Depakote)	Reproductive Risk	Capsule	Low†	Low†	Boxed Warning
		Oral Liquid	Low	Low	
Valproate sodium (Depacon)	Reproductive Risk	Injection	Moderate	Moderate	Boxed Warning
Vemurafenib (Zelboraf)	Antineoplastic	Tablet	Low†	Low†	
VinBLASStine (Velban)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 4 days and feces for 7 days after administration
vinCRISStine (Vincasar)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 4 days and feces for 7 days after administration
VinCRISStine liposomal (Marqibo)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 4 days after administration
Vinorelbine (Navelbine)	Antineoplastic	Injection	High	High	Wear PPE when handling patient urine for 4 days and feces for 7 days after administration
Voriconazole (Vfend)	Reproductive Risk	Injection	Moderate	Moderate	
		Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
Warfarin (Coumadin)	Reproductive Risk	Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
Zidovudine (Retrovir)	Non-Antineoplastic	Capsule	Low†	Low†	IARC Group 2B Carcinogen
		Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
		Syrup	Low	Low	
		Injection	Moderate	Moderate	
Ziprasidone (Geodon)	Reproductive Risk	Capsule	Low	Low†	
		Oral Compound	Moderate	Low	
		Injection	Moderate	Moderate	
Ziv-aflibercept (Zaltrap)	Antineoplastic	Injection	High	High	
Zoledronic Acid (Reclast, Zometa)	Reproductive Risk	Injection	Moderate	Moderate	

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Zonisamide (Zonegran)	Reproductive Risk	Capsule	Low	Low†	
		Oral Compound	Moderate	Low	

Abbreviations and Definitions

NIOSH: National Institute for Occupational Safety and Health

Antineoplastic	Antineoplastic drugs are used to treat cancer.
Non-antineoplastic	Non-antineoplastic drugs meet one or more of the NIOSH criteria for a hazardous drug. May also pose a reproductive risk for susceptible populations
Reproductive Risk	Drugs that primarily pose a reproductive risk to men and women who are actively trying to conceive and women who are pregnant or breastfeeding, because some of these drugs may be present in breast milk.

IARC: International Agency for Research on Cancer

Group 1	Carcinogenic to humans
Group 2A	Probably carcinogenic to humans
Group 2B	Possibly carcinogenic to humans
Altered	Crushing, splitting, and opening
Antineoplastic	Inhibits or prevents the spread of tumors or malignant cells
Boxed Warning	The highest safety-related warning that medications can have assigned by the Food and Drug Administration (FDA).
Carcinogen	A substance capable of causing cancer in living cells
Carcinoma	Cancer arising in the epithelial tissue of the skin or the lining of the internal organs
Genotoxic	Able to cause damage to the genetic information within a cell
Lymphoma	Cancer of the lymph nodes
Malignant	Spread of cancer to nearby tissues and other areas of the body
Neoplasm	New abnormal tissue growth, particularly related to cancer
PPE	Personal Protective Equipment
Teratogenic	Use has the potential for causing malformations to an embryo
Trimester	1st: Initial 12 weeks of gestation; 2nd: Time from 13 weeks to 27 weeks of gestation; 3rd: Time from 28 weeks of gestation until delivery