

Pharmacy Guideline for Handling Hazardous Drugs

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

Wear moderate PPE when handling patient's emesis, urine, and/or feces for at least 48 hours after administration of an antineoplastic agent

Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Abacavir (Ziagen)	2: HIV nucleoside & nucleotide reverse	Tablet	Low	Low	
		Altered Tablet	Low‡	Low‡	
Abiraterone (Zytiga)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Acitretin (Soriatane)	2: Skin and mucuous membrane agent	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
Ado-trastuzumab emtasine (Kadcycla)	1: Antineoplastic	Injection	High	Moderate	
Afatinib (Gilortif)	2: Antineoplastic	Tablet	Low†	Low†	
Ambrisentan (Letairis)	2: Vasodilating agent	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Anastrozole (Arimidex)	2: Antineoplastic; antiestrogen	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Apomorphine (Apokyn)	2: Nonergot-derivative dopamine	Injection	Low	Low	
Arsenic trioxide (Trisenox)	1: Antineoplastic	Injection	High	Moderate	IARC Group 1 carcinogen; NTP
Axitinib (Inlyta)	2: Antineoplastic	Tablet	Low†	Low†	
AzaCITIDine (Vidaza)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2A carcinogen; NTP
AzaTHIOprine (Imuran)	1: Immunosuppressiv e; DMARD	Tablet	Low	Low	IARC Group 1 carcinogen; NTP
		Altered Tablet	Low‡	Low‡	
Bacillus Calmette Guerin (BCG; Tice)	Vaccine	Bladder Irrigation	High	High	See policy AC.17
Belinostat (Beleodaq)	1: Antineoplastic	Injection	High	Moderate	

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Bendamustine (Treanda)	1: Antineoplastic	Injection	High	Moderate	
Bexarotene (Targretin)	2: Antineoplastic	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
	2: Skin and mucuous n	Topical	Low	Moderate	
Bicalutamide (Casodex)	2: Antineoplastic	Tablet	Low†	Low†	
		Altered Tablet	Moderate‡	Moderate‡	
Bleomycin (Blenoxane)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2B carcinogen
Blinatumomab (Blinicyto)	2: Antineoplastic	Injection	High	Moderate	
Bortezomib (Velcade)	1: Antineoplastic	Injection	High	Moderate	
Bosentan (Tracleer)	2: Vasodilating agent	Tablet	Low‡	Low‡	Developmental and/or reproductive hazard only
		Altered Tablet	Moderate‡	Moderate‡	
Bosutinib (Bosulif)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Brentuximab vedotin (Adcetris)	1: Antineoplastic	Injection	High	Moderate	
Busulfan (Myleran)	1: Antineoplastic	Tablet	Low†	Low†	IARC Group 1 carcinogen
Cabazitaxel (Jevtana)	1: Antineoplastic	Injection	High	Moderate	
Cabergoline (Dostinex)	1: Ergot-derivative dopamine receptor	Tablet	Low	Low	Developmental and/or reproductive hazard only
Cabozantinib (Cometriq; Cabometyx)	2: Anticonvulsant; antimanic agent	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
		Capsule			
Capecitabine (Xeloda)	1: Antineoplastic	Tablet	Low†	Low†	
CarBAMazepine (TEGretol)	2: Anticonvulsants, antimanic agent	Tablet	Low†	Low†	Boxed Warning
		Oral Liquid	Low	Low	

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Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Carboplatin (Paraplatin)	1: Antineoplastic	Injection	High	Moderate	
Carfilzomib (Kyprolis)	2: Antineoplastic	Injection	High	Moderate	Developmental and/or reproductive hazard only
Carmustine (BiCNU)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2A Carcinogen
Ceritinib (Zykadia)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
		Altered Tablet	Moderate	Low‡	
Cetorelix (Cetrotide)	2: Antigonadotropin	Injection	Low	Moderate	Developmental and/or reproductive hazard only
Chlorambucil (Leukeran)	1: Antineoplastic	Tablet	Low†	Low†	IARC Group 1 carcinogen; NTP
Chloramphenicol (Chloromycetin)	1: Chloramphenicol	Injection	High	Moderate	IARC Group 2B Carcinogen; NTP
Choriogonado-tropin (Ovidrel)	2: gonadotropin	Injection	Low	Low	Developmental and/or reproductive hazard only
Cidofovir (Vistide)	1: nucleosides and nucleotides	Injection	High	Moderate	
CISplatin (Platinol)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2A carcinogen; NTP
Cladribine (Lesutatin)	1: Antineoplastic	Injection	High	Moderate	
Clobazam (Onfi)	2: Benzodiazepine	Tablet	Low	Low	Developmental and/or reproductive hazard only
		Oral Liquid	Moderate	Low‡	
		Film	Low†	Low†	
Clofarabine (Clolar)	1: Antineoplastic	Injection	High	Moderate	
Clomiphene (Clomid; Serophene)	2: Estrogen agonist- antagonist	Tablet	Low	Low	Developmental and/or reproductive hazard only
Clonazepam (Klonopin)	2: Benzodiazepine	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
		Altered Tablet	Low‡	Low‡	
Cobimetinib (Cotellic)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only

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Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Colchicine (Colcrys)	2: Antigout agent	Tablet	Low‡	Low‡	Developmental and/or reproductive hazard only
		Altered Tablet	Low‡	Low‡	
Crizotinib (Xalkori)	2: Antineoplastic	Capsule	Low†	Low†	
Cyclophosphamide (Cytoxan)	1: Antineoplastic; Immunosuppressive agent	Tablet	Low†	Low†	IARC Group 1 carcinogen; NTP
		Capsule	Low†	Low†	
		Injection	High	Moderate	
Cyclosporine (Gengraph, Neoral, SandIMMUNE, Restasis)	1: anti-inflammatory, immunosuppressive, DMARDs	Capsule	Low†	Low†	
		Oral Liquid	Low	Low	
		Injection	Moderate	Moderate	
		Ophthalmic	Low	Low	
Cytarabine (Cytostar)	1: Antineoplastic	Injection	High	Moderate	
Dabrafenib (Tafinlar)	2: Antineoplastic	Capsule	Low†	Low†	
		Altered Tablet	Moderate	Low‡	
Dacarbazine (DTIC)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2B carcinogen; NTP
DACTINomycin (Cosmegen)	1: Antineoplastic	Injection	High	Moderate	
Dasatinib (Sprycel)	1: Antineoplastic	Tablet	Low†	Low†	
Daunorubicin (Cerubidine)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2B carcinogen
Decitabine (Dacogen)	1: Antineoplastic	Injection	High	Moderate	
Deferiprone (Ferriprox)	2: Heavy metal antagonist	Tablet	Low‡	Low‡	
		Oral Liquid	Moderate	Low‡	

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Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Degarelix (Firmagon)	2:Antineoplastic; antigonadotropin	Injection	High	Moderate	Developmental and/or reproductive hazard only
Dexrazoxane (Zinecard)	1: Protective agent	Injection	High	Moderate	
Dihydroergotamine (D.H.E 45, Migranal, Trudhesa)	2: non-selective alpha adrenergic blocking agent; antimigraine agent	Injection	Moderate	Moderate	Developmental and/or reproductive hazard only
		Nasal	Low	Moderate	
Dinoprostone (Cervidil)	2: oxytocics	Vaginal Insert	Low	Low	
Divalproex sodium (Depakote, Depakote Sprinkles)	2: Anticonvulsants, antimanic; antimigraine	Tablet	Low†	Low†	Boxed Warning; Developmental and/or reproductive hazard only
		Capsule	Low	Low	
		Altered Capsule	Low	Low	
DOCEtaxel (Taxotere)	1: Antineoplastic	Injection	High	Moderate	
DOXOrubicin (Adriamycin)	1: Antineoplastic	Injection, TACE beads	High	Moderate	IARC Group 2A Carcinogen; NTP
DOXOrubicin Lipid (Doxil)	1: Antineoplastic	Injection	High	Moderate	
Dronedarone (Multaq)	2: Class III antiarrhythmics	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Dutasteride (Avadart)	2: alpha reductase inhibitor	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
Enfortumab vedotin (Padcev)	1: Antineoplastic	Injection	High	Moderate	

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Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Entecavir (Baraclude)	2: Nucleoside and nucleotide	Tablet	Low†	Low†	
		Oral Liquid	Low	Moderate	
Enzalutamide (Xtandi)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
		Capsule	Low†	Low†	
EpiRUBicin (Ellence)	1: Antineoplastic	Injection	High	Moderate	
EriBULin (Halaven)	1: Antineoplastic	Injection	High	Moderate	
Erlotinib (Tarceva)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Eslicarbazepine (Aptiom)	2: Anticonvulsant	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
		Altered Tablet	Moderate	Low‡	
Estramustine (Emcyt)	1: Antineoplastic	Capsule	Low†	Low†	
Estradiol (Estrace)	2: Estrogen; bone resorption inhibitors	Tablet	Low	Low	Boxed Warning
		Altered Tablet	Low‡	Low‡	
		Topical	Low	Moderate	
Estradiol (Climara)	2: Estrogen; bone resorption inhibitors	Topical	Low	Low	Boxed Warning
Estradiol valerate (Delestrogen)	2: Estrogen; bone resorption inhibitors	Injection	Low	Low	Boxed Warning
Estrogens, conjugated (Premarin)	1: estrogen; bone resorption inhibitor	Tablet	Low	Low	Boxed Warning; NTP
		Altered Tablet	Low‡	Low‡	
		Topical	Low	Low	
		Injection	Low	Low	

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Estrogen, esterified - Estrogens Methyltestost-erone (Estratest)	1: Estrogen; bone resorption inhibitor	Tablet	Low†	Low†	Boxed Warning; NTP
Estrogen/progesterone combinations (Nortrel)	1: Contraceptives; estrogen; progestin	Various	Low†	Low†	IARC Group 1 cardinogen; NTP
Etoposide (Vepesid)	1: Antineoplastic	Capsule	Low†	Low†	IARC Group 1 carcinogen
		Injection	High	Moderate	
Etoposide phosphate (Etopophos)	1: Antineoplastic	Injection	High	Moderate	IARC Group 1 carcinogen
Everolimus (Afinitor)	1: Antineoplastic; Immunosuppressive agent	Tablet	Low†	Low†	
Exemestane (Aromasin)	2: Antineoplastic; antiestrogen	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Exenatide (Byetta)	2: Incretin mimetics	Injection	Low	Low	
Fam-trastuzumab deruxtecan (Enhertu)	1: Antineoplastic	Injection	High	Moderate	
Finasteride (Proscar)	2: 5-alpha reductase inhibitor	Tablet	Low	Low	
		Altered Tablet	Low‡	Low‡	
Fingolimod (Gilenya)	2: immuno- modulatory agents	Capsule	Low†	Low†	
Floxuridine (FUDR)	1: Antineoplastic	Injection	High	Moderate	

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Fluconazole (Diflucan)	2: Azole	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
		Oral Liquid	Low	Low	
		Injection	Moderate	Low	
Fludarabine (Fludara)	1: Antineoplastic	Injection	High	Moderate	
Fluorouracil (Acrucil)	1: Antineoplastic; skin and mucous membrane agent	Injection	High	Moderate	
Flurouracil (Efudex)	1: Antineoplastic skin and mucous membrane agent	Topical	Low	Moderate	
Flutamide (Eulexin)	2: Antineoplastic	Capsule	Low†	Low†	
Fosphenytoin (Cerebyx)	2: Hyantoins	Injection	Low	Low	
Fulvestrant (Faslodex)	2: Antineoplastic	Injection	Low	Moderate	Developmental and/or reproductive hazard only
Ganirelix (Antagon)	2: Antigonadotropin	Injection	Low	Low	Developmental and/or reproductive hazard only
Ganciclovir (Cytovene)	2: Nucleoside and nucleotides; anti-viral	Injection	High	Moderate	
Gemcitabine (Gemzar)	1: Antineoplastic	Injection	High	Moderate	
Gemtuzumab ozogamicin (Mylotarg)	1: Antineoplastic	Injection	High	Moderate	
Gonadotropin, chorionic (Novarel, Pregnyl)	2: gonadotropin	Injection	Moderate	Moderate	Developmental and/or reproductive hazard only

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Goserelin (Zoladex)	2: Antineoplastic; gonadatropin	Injection	Low	Moderate	Developmental and/or reproductive hazard only
Histrelin (Supprelin LA)	2: Antineoplastic; gonadatropin	Injection	Low	Moderate	Developmental and/or reproductive hazard only
Hydroxyurea (Hydrea)	1: Antineoplastic	Capsule	Low	Low†	
IDArubicin (Idamycin)	1: Antineoplastic	Injection	High	Moderate	
Icatibant (Firazyr)	2: Complement inhibitor	Injection	Low	Low	Developmental and/or reproductive hazard only
Ifosfamide (Ifex)	1: Antineoplastic	Injection	High	Moderate	
Imatibin (Gleevac)	1: Antineoplastic	Tablet	Low	Low†	
		Altered Tablet	Moderate‡	Moderate‡	
Inotuzumab ozogamicin (Besponsa)	1: Antineoplastic	Injection	High	Moderate	
Irinotecan (Camptosar)	1: Antineoplastic	Injection, TACE beads	High	Moderate	
Isotretinoin (Accutane)	2: Skin and mucuous membrane agent	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
Ivabradine (Corlanor)	2: Cardiac drug	Tablet	Low‡	Low‡	Developmental and/or reproductive hazard only
		Oral Liquid	Moderate‡	Moderate‡	
Ixabepilone (Ixempra)	1: Antineoplastic	Injection	High	Moderate	
Ixazomib (Ninlaro)	1: Antineoplastic	Capsule	Low†	Low†	
Leflunomide (Arava)	2: Antineoplastic	Tablet	Low†	Low†	

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Lenalidomide (Revlimid)	1: Antineoplastic; immunomodulatory agent	Capsule	Low†	Low†	Boxed Warning
Lenvatinib (Lenvima)	2: Antineoplastic	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
		Oral Liquid	Moderate	Low	
Letrozole (Femara)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Leuprolide acetate (Lupron, Eligard)	2: Antineoplastic; gonadotropin	Injection*	Low	Moderate	Developmental and/or reproductive hazard only; *ready-to-use syringe only
		Injection (MDV)	High	Moderate	
Lomitapide (Juxtapid)	2: Antilipemic	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
Lomustine (Ceenu; Gleostine)	1: Antineoplastic	Capsule	Low†	Low†	
Loncastuximab tesirine	1: Antineoplastic	Injection	High	Moderate	
Lurbinectedin (Zepzelca)	1: Antineoplastic	Injection	High	Moderate	
Macitentan (Opsumit)	2: Vasodilating agent	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Mechlorethamine (Mustargen; Valchlor)	1: Antineoplastic Skin and mucuous membrane agent	Injection	High	Moderate	
		Topical	Low	Low	
Medroxy-PROGESTERone (Provera, Depo-Provera pre-filled syringe)	2: Progestins; contraceptives	Tablet	Low	Low	IARC Group 2B carcinogen; Developmental and/or reproductive hazard only
		Altered Tablet	Low‡	Low‡	
		Injection	Low	Low	
Megestrol (Megace)	2: Antineoplastic; Progestin	Tablet	Low†	Low†	
		Oral Liquid	Low	Moderate	
Melphalan (Alkeran)	1: Antineoplastic	Tablet	Low	Low†	IARC Group 1 carcinogen; NTP
		Altered Tablet	Moderate‡	Moderate‡	
		Injection	High	Moderate	

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Menotropins (Menopur)	2: NA Gonadotropin	Injection	Low	Moderate	Developmental and/or reproductive hazard only
Mercaptopurine (Puriethol)	1: Antineoplastic; Immunosuppressive agent	Tablet	Low	Low†	
		Altered Tablet	Moderate‡	Moderate‡	
Methimazole (Tapazole)	2: Antithyroid agents	Tablet	Low‡	Low‡	Developmental and/or reproductive hazard only
		Altered Tablet	Low‡	Low‡	
Methotrexate (Folex)	1: Antineoplastic; immunomodulatory agent; DMARDs	Tablet	Low	Low	
		Altered Tablet	Moderate‡	Moderate‡	
		Injection	High	Moderate	
Methylergonovine (Methergine)	2: oxytocics	Injection	Low	Low	Developmental and/or reproductive hazard only
Methyltestosterone (Methitest)	2: Androgen	Tablet	Low±	Low±	Developmental and/or reproductive hazard only
		Capsule	Low†	Low†	
Mifepristone (Mifeprex)	2: oxytocics	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Miltefosine (Impavido)	2: Antiprotozoal	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
Mirvetuximab soravtansine (Elahere)	1: Antineoplastic	Injection	High	Moderate	
miSOPROStol (Cytotec)	2: Prostaglandin	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
MitoMYCIN C (Mutamycin)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2B carcinogen
		Bladder Irrigation	High	High	
Mitotane (Lysodren)	1: Antineoplastic	Tablet	Low	Low†	
		Altered Tablet	Moderate‡	Moderate‡	
MitoXANTRONE (Novantrone)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2B Carcinogen

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Mycophenolate mofetil (Cellcept)	1:Immuno- suppressive agent	Tablet	Low†	Low†	Boxed Warning
		Capsule	Low†	Low†	
		Oral Liquid	Moderate	Low	
		Injection	High	Moderate	
Mycophenolate sodium (Myfortic)	2: Immuno- suppressive agent	Tablet	Low†	Low†	Boxed Warning
Nafarelin (Synarel)	2: gonadotropin	Nasal	Low†	Low†	Developmental and/or reproductive hazard only
Nelarabine (Arranon)	1: Antineoplastic	Injection	High	Moderate	
Nevirapine (Viramune)	2: HIV nonnucleoside reverse transcripase inhibitor	Oral Liquid	Low	Low	
Nilotinib (Tasigna)	2: Antineoplastic	Capsule	Low†	Low†	
Olaparib (Lynparza)	2: Antineoplastic	Tablet	Low†	Low†	
Omacetaxine (Synribo)	1: Antineoplastic	Injection	High	Moderate	
Ospemifene (Osphena)	2: Estrogen agonist- antagonist	Tablet	Low†	Low†	Boxed Warning
Oxaliplatin (Eloxatin)	1: Antineoplastic	Injection	High	Moderate	
Oxcarbazepine (Trileptal)	2: Anticonvulsant	Tablet	Low‡	Low‡	Do not crush (ok to split scored tablet)
		Oral Liquid	Low	Low	
Oxytocin (Pitocin)	2: Oxytocics	Injection	Low	Low	Developmental and/or reproductive hazard in the third trimester only
PAclitaxel (Taxol)	1: Antineoplastic	Injection	High	Moderate	

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

Wear moderate PPE when handling patient's emesis, urine, and/or feces for at least 48 hours after administration of an antineoplastic agent

Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
PACLitaxel protein bound (Abraxane)	1: Antineoplastic	Injection	High	Moderate	
Palifermin	2: Cell stimulant and p	Injection	Low	Low	
Pamidronate (Aredia)	2: bone resorption inhibitor	Injection	Low	Low	Developmental and/or reproductive hazard only
Panobinostat (Farydak)	1: Antineoplastic	Capsule	Low†	Low†	
Paroxetine (Paxil CR)	2: Selective serotonin re-uptake inhibitor	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Paroxetine (Paxil)	2: Selective serotonin re-uptake inhibitor	Tablet	Low‡	Low‡	Developmental and/or reproductive hazard only
		Altered Tablet	Low‡	Low‡	
		Oral Liquid	Low	Low	
Pasireotide (Signifor)	2: Somatostatin	Injection	Low	Low	Developmental and/or reproductive hazard only
PAZOPanib (votrient)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
PEMEtrexed (Alimta)	1: Antineoplastic	Injection	High	Moderate	
Pentetate calcium trisodium	2: NA	Injection	Low	Low	Developmental and/or reproductive hazard only
Pentostatin (Nipent)	1: Antineoplastic	Injection	High	Moderate	
Phenoxybenz-amine (Dibenzyline)	2: Hypotensive agent	Capsule	Low	Low	
		Oral Compound	Moderate	Low	
Phenytoin (Dilantin)	2: Class 1b antiarrhythmic antiepileptic	Oral Liquid	Low	Low	IARC Group 2B carcinogen
		Injection	Moderate	Moderate	
		Capsule	Low†	Low†	
Plerixafor (Mozobil)	2: hematopoietic	Injection	Low	Low	Developmental and/or reproductive hazard only
Polatuzumab vedotin (Polivy)	1: Antineoplastic	Injection	High	Moderate	

Pharmacy Guideline for Handling Hazardous Drugs

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* ASTM 6978 rated gloves	†Do not alter	‡Special Handling. Contact Pharmacy	Grey indicates non-formulary medication

Wear moderate PPE when handling patient's emesis, urine, and/or feces for at least 48 hours after administration of an antineoplastic agent

Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Pomalidomide (Pomalyst)	1: Antineoplastic; immunomodulatory agent	Capsule	Low†	Low†	
Ponatinib (Iclusig)	2: Antineoplastic	Tablet	Low†	Low†	
PRALatrexate (Folotyng)	1: Antineoplastic	Injection	High	Moderate	
Procarbazine (Matulane)	1: Antineoplastic	Capsule	Low†	Low†	IARC Group 2A carcinogen
Progesterone (Prometrium)	2: Progestins	Capsule	Low†	Low†	IARC Group 2B
Progestins like Levonorgestrel (Plan B, Kyleena, Liletta, Mirena)	2: Contraceptives	Tablet	Low†	Low†	
		Intrauterine insert	Low	Low	
Propylthiouracil	2: Antithyroid	Tablet	Low	Low	IARC Group 2B carcinogen
		Altered Tablet	Low‡	Low‡	
Raloxifene (Evista)	2: Antineoplastic; estrogen agonists-antagonist; bone resorption inhibitor	Tablet	Low†	Low†	
Rasagiline (Azilect)	2: Antiparkinson agents; monoamine oxidase inhibitor	Tablet	Low	Low	
Regorafenib (Stivarga)	2: antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Ribavirin (Rebetol)	2: Nucleosides and nucleotides	Capsule	Low†	Low†	Developmental and/or reproductive hazard only

Pharmacy Guideline for Handling Hazardous Drugs

Low:	Handle using normal precautions and single gloves*		
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* ASTM 6978 rated gloves	†Do not alter	‡Special Handling. Contact Pharmacy	Grey indicates non-formulary medication

Wear moderate PPE when handling patient's emesis, urine, and/or feces for at least 48 hours after administration of an antineoplastic agent

Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Ribavirin (Copegus)	2: Nucleosides and nucleotides	Tablet	Low†	Low†	
Riociguat (Adempas)	2: Vasodilating agent	Tablet	Low	Low	Developmental and/or reproductive hazard only
		Altered Tablet	Low‡	Low‡	
RomiDEPsin (Istodax)	1: Antineoplastic	Injection	High	Moderate	
Sacituzumab govitecan (Trodelvy)	1: Antineoplastic	Injection	High	Moderate	
Sirolimus (Rapamune)	2: Immunosuppressive agent	Tablet	Low†	Low†	
		Oral Liquid	Low	Low	
Sonideqib (Odomzo)	2: antineoplastic	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
SORafenib (NexAVAR)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Spironolactone (Aldactone)	2: Mineralo-corticoid receptor antagonist; potassium sparing diuretic	Tablet	Low†	Low†	Boxed Warning
		Oral Liquid	Low	Low	
Streptozocin (Zanosar)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2B carcinogen; NTP
SUNitinib (Sutent)	2: Antineoplastic	Capsule	Low†	Low†	
Tacrolimus (Prograf)	2: Immunosuppressive agent	Capsule	Low‡	Low‡	
		Oral Compound	Moderate	Low	
		Injection	Moderate	Moderate	
Tamoxifen (Nolvadex)	1: Antineoplastic; estrogen agonist-antagonist	Tablet	Low†	Low†	IARC Group 1 carcinogen; NTP
		Oral Liquid	Moderate‡	Moderate‡	
Temazepam (Restoril)	2: Benzodiazepine	Capsule	Low†	Low†	Developmental and/or reproductive hazard only

Pharmacy Guideline for Handling Hazardous Drugs

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* ASTM 6978 rated gloves	†Do not alter	‡Special Handling. Contact Pharmacy	Grey indicates non-formulary medication

Wear moderate PPE when handling patient's emesis, urine, and/or feces for at least 48 hours after administration of an antineoplastic agent

Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Temozolomide (Temodar)	1: Antineoplastic	Capsule	Low†	Low†	
		Injection	High	Moderate	
Temsirolimus (Torisel)	1: Antineoplastic	Injection	High	Moderate	
Teniposide (Vumon)	1: Antineoplastic	Injection	High	Moderate	IARC Group 2A carcinogen
Teriflunomide (Aubagio)	2: Immunomodulatory	Tablet	Low†	Low†	
Testosterone cypionate (Depo-testosterone)	2: Androgen	Injection	Low	Low	Developmental and/or reproductive hazard only
Testosterone (Androgel, Androderm)	2: Androgen	Topical	Low	Moderate	Developmental and/or reproductive hazard only
Thalidomide (Thalomid)	2: Immuno-modulatory agent	Capsule	Low†	Low†	
Thioguanine (Tabloid)	1: Antineoplastic	Tablet	Low	Low†	
Thiotepa	1: Antineoplastic	Injection	High	Moderate	IARC Group 1 carcinogen; NTP
Tisotumab-vedotin (Tivdak)	1: Antineoplastic	Injection	High	Moderate	
Tofacitinib (Xeljanz)	2: DMARDs	Tablet	Low†	Low†	
		Oral liquid	Low	Low	
Topiramate (Topamax)	2: Anticonvulsant	Sprinkle Capsule	Low	Low	Developmental and/or reproductive hazard only
Topotecan (Hycamtin)	1: Antineoplastic	Injection	High	Moderate	
Toremifene (Fareston)	2: Antineoplastic; Estrogen agonist-antagonist	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Trabectedin (Yondelis)	1: Antineoplastic	Injection	High	Moderate	

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Wear moderate PPE when handling patient's emesis, urine, and/or feces for at least 48 hours after administration of an antineoplastic agent

Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
Trametinib (Mekinist)	2: Antineoplastic	Tablet	Low†	Low†	
		Oral Liquid	Low‡	Low‡	
Tretinoin (Retin-A)	2: Cell stimulants and proliferants	Capsule	Low†	Low†	Boxed Warning; Developmental and/or reproductive hazard only
		Topical	Low	Moderate	
Trifluridine Tipiracil(Lonsurf)	1: Antineoplastic	Tablet	Low†	Low†	
Triptorelin (Trelstar)	2: Antineoplastic; gonadotropins	Injection	Assess	Assess	Developmental and/or reproductive hazard only
Ulipristal (Ella)	2:Contraceptives	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
ValGANCiclovir (Valcyte)	2: nucleosides and nucleotides	Tablet	Low	Low	Boxed Warning
		Altered Tablet	Low‡	Low‡	
Valproic acid (Depakote)	2: Anticonvulsant; antimanic, antimigraine	Capsule	Low†	Low†	Boxed Warning; Developmental and/or reproductive hazard only
		Oral Liquid	Low	Low	
Valproate sodium (Depacon)	2: Anticonvulsant; antimanic, antimigraine	Injection	Moderate	Low	Boxed Warning
Valrubicin (Valstar)	1: Antineoplastic	Injection	High	Moderate	
Vandetanib (Caprelsa)	1: Antineoplastic	Tablet	Low	Low	
		Altered Tablet	High‡	Moderate‡	
Vemurafenib (Zelboraf)	2: Antineoplastic	Tablet	Low†	Low†	Developmental and/or reproductive hazard only
Vigabatrin (Sabril; Vigadrone; Vigafyde)	2: Anticonvulsant	Tablet	Assess	Assess	Developmental and/or reproductive hazard only
		Oral Liquid	Assess	Assess	
VinBLASTine (Velban)	1: Antineoplastic	Injection	High	Moderate	
vinCRISTine (Vincasar)	1: Antineoplastic	Injection	High	Moderate	

Pharmacy Guideline for Handling Hazardous Drugs

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Wear moderate PPE when handling patient's emesis, urine, and/or feces for at least 48 hours after administration of an antineoplastic agent

Generic Drug Name (Brand Name)	NIOSH & AHFS Group	Formulation	Pharmacy Handling Category	Nursing Handling Category	Supplemental Information
VinCRistine liposomal (Marqibo)	1: Antineoplastic	Injection	High	Moderate	
Vinorelbine (Navelbine)	1: Antineoplastic	Injection	High	Moderate	
Vismodegib (Erivedge)	2: Antineoplastic	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
Voriconazole (Vfend)	2: Azoles	Injection	Low	Low	
		Tablet	Low	Low†	
		Oral Liquid	Low‡	Low‡	
Vorinostat (Zolanza)	1: Antineoplastic	Capsule	Low†	Low†	
Warfarin (Coumadin)	2: Coumarin derivative	Tablet	Low‡	Low‡	Developmental and/or reproductive hazard only
		Altered Tablet	Low‡	Low‡	
Zidovudine (Retrovir)	2: HIV nonnucleoside reverse transcriptase inhibitor	Capsule	Low†	Low†	IARC Group 2B Carcinogen
		Tablet	Low	Low†	
		Altered Tablet	Low‡	Low‡	
		Syrup	Low	Low	
		Injection	Moderate	Moderate	
Ziprasidone (Geodon)	2: Atypical antipsychotic	Capsule	Low†	Low†	Developmental and/or reproductive hazard only
		Injection	Moderate	Moderate	
Ziv-aflibercept (Zaltrap)	2: Antineoplastic	Injection	High	Moderate	Developmental and/or reproductive hazard only
Zoledronic Acid (Reclast, Zometa)	2: Bone resorption inhibitor	Injection	Low	Low	Developmental and/or reproductive hazard only
Zonisamide (Zonegran)	2: Anticonvulsant	Capsule	Low‡	Low‡	Developmental and/or reproductive hazard only
		Oral Compound	Moderate	Low	

Pharmacy Guideline for Handling Hazardous Drugs

Abbreviations and Definitions

NIOSH: National Institute for Occupational Safety and Health

Table 1	Drugs that have MSHI in the package insert and/or meet the NIOSH definition of a hazardous drug: 1) Known to be a human carcinogen 2) IARC group 1 or 3) IARC group 2A
Table 2	Drugs that meet the NIOSH definition of a hazardous drug and do not have MSHI, are not known to be a human carcinogen, and are not classified by IARC as group 1 or 2a.

IARC: International Agency for Research on Cancer

Group 1	Carcinogenic to humans
Group 2A	Probably carcinogenic to humans
Group 2B	Possibly carcinogenic to humans
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
NTP	Known to be a human carcinogen
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