

Los Angeles General Medical Center

Hazardous Medications

MC947 Appendix A

Approved 12/2017

Revised 7/18, 2/19, 11/19; 12/9/23

Section 1: Antineoplastic Hazardous Medications

Group 1-A: Antineoplastic hazardous medications other than intact tablets or capsules

Must be administered by a registered nurse who is certified in cytotoxic medication use and advanced infusion care. Requires full personal protective equipment.

Injection		
Ado-trastuzumab emtansine (Kadcyla)	Doxorubicin (Adriamycin)	Omacetaxine (Synribo)
Amsacrine (Amsidine)	Doxorubicin liposomal (Doxil, Lipodox)	Oxaliplatin (Eloxatin)
Arsenic trioxide (Trisenox)	Enfortumab vedotin (Padcev)	Paclitaxel (Taxol)
Azacitidine (Vidaza)	Epirubicin (Ellence)	Paclitaxel protein-bound (Abraxane)
Bacillus calmette Guerin (BCG)	Eribulin (Halaven)	Pemetrexed (Alimta)
Belantamab mafodotin (Blenrep)	Etoposide (Etoposide, Vepesid)	Pentostatin (Nipent)
Belinostat (Beleodaq)	Floxuridine (FUDR)	Pertuzumab (Perjeta)
Bendamustine (Bendeka, Treanda)	Fludarabine (Fludara)	Polatuzumab vedotin (Polivy)
Bleomycin (Blenoxane)	Fluorouracil, 5-FU (Adrucil)	Pralatrexate (Folotyn)
Bortezomib (Velcade)	Fulvestrant (Faslodex)*	Romidepsin (Istodax)
Brentuximab vedotin (Adcetris)	Gemcitabine (Gemzar)	Sacituzumab govitecan (Trodelvy)
Busulfan (Busulfex)	Gemtuzumab ozogamicin (Mylotarg)	Streptozocin (Zanosar)
Cabazitaxel (Jevtana)	Goserelin (Zoladex)*	Talimogene laherparepvec (Imlygic) ^A
Carboplatin (Paraplatin)	Histrelin (Supprelin, Vantas)*	Temozolomide (Temodar)
Carfilzomib (Kyprolis)	Idarubicin (Idamycin)	Temsirolimus (Torisel)
Carmustine (Bicnu)	Ifosfamide (Ifex)	Teniposide (Vumon)
Cisplatin (Platinol)	Inotuzumab ozogamicin (Besponsa)	Thiotepa (Thioplex)
Cladribine (Leustatin)	Irinotecan (Camptosar)	Tisotumab vedotin (Tivdak)
Clofarabine (Clolar)	Irinotecan liposomal (Onivyde)	Topotecan (Hycamtin)
Cyclophosphamide (Cytosan)	Ixabepilone (Ixempra)	Trabectedin (Yondelis) ^A
Cytarabine (Cytosar-U)	Leuprolide (Eligard, Lupron)*	Trastuzumab deruxtecan (Enhertu)
Cytarabine liposomal (Depocyt)	Loncastuximab tesirine (Zynlonta)	Valrubicin (Valstar)
Dacarbazine (DTIC-Dome)	Mechlorethamine (Mustargen)	Vinblastine (Velban)
Dactinomycin (Cosmegen)	Melphalan (Alkeran, Evomela)	Vincristine (Oncovin, Vincasar)
Daunorubicin (Cerubidine)	Melphalan flufenamide (Pepaxto)	Vincristine liposomal (Marqibo)
Daunorubicin liposomal (DaunoXome)	Methotrexate (Otrexup, Rasuvo)	Vinorelbine (Navelbine)
Decitabine (Dacogen)	Mitomycin (Mutamycin)	Ziv-aflibercept (Zaltrap)
Degarelix (Firmagon)*	Mitoxantrone (Novantrone)	
Docetaxel (Docefrez, Taxotere)	Nelarabine (Arranon)	
Other Dosage Form		
Bexarotene (Targretin)* <i>Topical gel</i>	Mechlorethamine (Valchlor) <i>Topical gel</i>	Tamoxifen (Soltamox)* <i>Oral solution</i>
Everolimus (Afinitor) <i>Tablet for oral suspension</i>	Megestrol (Megace)* <i>Oral suspension</i>	Tretinoin (Retin-A)* <i>Topical cream, topical gel</i>
Fluorouracil (Carac, Efudex, Tarak) <i>Topical cream, topical solution</i>	Mercaptopurine (Purixan) <i>Oral suspension</i>	

Notes:

* Not cytotoxic; may be administered by any personnel authorized by the medical center to administer medications

^Y Considered non-antineoplastic hazardous in the NIOSH 2016 Hazardous Drugs List

^Z Not considered hazardous in the NIOSH 2016 Hazardous Drugs List

^A New medication not yet considered by NIOSH for inclusion on the hazardous drugs list

Group 1-B: Antineoplastic hazardous medications when intact tablets or capsules*Must be administered by a registered nurse who is certified in hazardous medication use. Requires single gloving.*

Oral Tablet or Capsule	
Afatinib (Gilotrif)	Melphalan (Alkeran)
Alectinib (Alecensa) ^Z	Mercaptopurine (Purinetho)
Altretamine (Hexalen)	Methotrexate (Trexall)
Axitinib (Inlyta)	Mitotane (Lysodren)
Bexarotene (Targretin)	Nilotinib (Tasigna)
Bosutinib (Bosulif)	Olaparib (Lynparza) ^Z
Busulfan (Myleran)	Osimertinib (Tagrisso) ^Z
Cabozantinib (Cabometyx, Cometriq)	Palbociclib (Ibrance) ^Z
Capecitabine (Xeloda)	Panobinostat (Farydak)
Ceritinib (Zykadia) ^Z	Pazopanib (Votrient)
Chlorambucil (Leukeran)	Pomalidomide (Pomalyst)
Cobimetinib (Cotellic) ^Z	Ponatinib (Iclusig)
Crizotinib (Xalkori)	Procarbazine (Matulane)
Cyclophosphamide (Cytoxan)	Regorafenib (Stivarga)
Dabrafenib (Tafinlar)	Ruxolitinib (Jakafi) ^Z
Dasatinib (Sprycel)	Sonidegib (Odomzo) ^Z
Erlotinib (Tarceva)	Sorafenib (Nexavar)
Estramustine (Emcyt)	Sunitinib (Sutent)
Etoposide (Vepesid)	Temozolomide (Temodar)
Everolimus (Afinitor, Zortress)	Thalidomide (Thalomid) ^Y
Gefitinib (Iressa) ^Z	Thioguanine (Tabloid)
Hydroxyurea (Droxia, Hydrea)	Topotecan (Hycamtin)
Ibrutinib (Imbruvica) ^Z	Trametinib (Mekinist)
Idelalisib (Zydelig) ^Z	Tretinoin, ATRA (Vesanoid) ^Y
Imatinib (Gleevec)	Trifluridine-tipiracil (Lonsurf)
Ixazomib (Ninlaro)	Vandetanib (Caprelsa)
Lapatinib (Tykerb) ^Z	Vemurafenib (Zelboraf)
Lenalidomide (Revlimid) ^Y	Venetoclax (Venclexta) ^Z
Lenvatinib (Lenvima) ^Z	Vismodegib (Erivedge)
Lomustine (Ceenu, Gleostine)	Vorinostat (Zolanza)
*The following Group 1-B medications are not cytotoxic; they may be administered by any personnel authorized by the medical center to administer medications, but must be handled in all other ways as Group 1-B medications	
Abiraterone (Zytiga)*	Letrozole (Femara)*
Anastrozole (Arimidex)*	Megestrol (Megace)*
Bicalutamide (Casodex)*	Nilutamide (Nilandron)* ^Z
Enzalutamide (Xtandi)*	Tamoxifen (Nolvadex)*
Exemestane (Aromasin)*	Toremifene (Fareston)*
Flutamide (Eulexin)*	

Notes:^Y Considered non-antineoplastic hazardous in the NIOSH 2016 Hazardous Drugs List^Z Not considered hazardous in the NIOSH 2016 Hazardous Drugs List^A New medication not yet considered by NIOSH for inclusion on the hazardous drugs list

Section 2: Non-Antineoplastic Hazardous Medications

Group 2-A: Non-antineoplastic hazardous medications other than intact tablets or capsules

May be administered by any personnel authorized by the medical center to administer medications. Requires full personal protective equipment.

Injection		
Alefacept (Amevive)	Ganciclovir (Cytovene)	Peginesatide (Omontys)
Apomorphine (Apokyn)	Ganirelix (Antagon)	Pentamidine (Pentam)
Azathioprine (Imuran)	Icatibant (Firazyr)	Pentetate calcium trisodium (Ca-DTPA)
Cetrorelix (Cetrotide)	Liraglutide (Saxenda, Victoza)	Phenytoin (Dilantin)**
Chloramphenicol (Chloromycetin)	Medroxyprogesterone (Depo-Provera)	Plerixafor (Mozobil)
Choriogonadotropin (Novarel, Pregnyl)	Menotropins (various)	Risperidone (Risperdal)
Choriogonadotropin, rec (Ovidrel)	Methylergonovine (Methergine)**	Tacrolimus (Prograf)
Cidofovir (Vistide)	Mipomersen (Kynamro)	Telavancin (Vibativ)
Cyclosporine (Sandimmune)	Mycophenolate (Cellcept)	Testosterone (various)
Dexrazoxane (Totect, Zinecard)	Oxytocin (Pitocin)**	Valproic acid (Depacon)**
Estradiol (Delestrogen, Depo-Estradiol)	Palifermin (Kepivance)	Voriconazole (Vfend)
Estrogens, conjugated (Premarin)	Paliperidone (Invega)	Zidovudine (Retrovir)
Fluconazole (Diflucan)	Pamidronate (Aredia)	Ziprasidone (Geodon)
Fosphenytoin (Cerebyx)**	Pasireotide (Signifor)	Zoledronate (Reclast, Zometa)
Other Dosage Form		
Abacavir (Ziagen) <i>Oral solution</i>	Mycophenolate (Cellcept) <i>Powder for oral suspension</i>	Risperidone (Risperdal) <i>Oral solution</i>
Alitretinoin (Panretin) <i>Topical gel</i>	Nafarelin (Synarel) <i>Nasal spray</i>	Sirolimus (Rapamune) <i>Oral solution</i>
Carbamazepine (Tegretol) <i>Oral suspension</i>	Nevirapine (Viramune) <i>Oral suspension</i>	Tacrolimus (Protopic) <i>Topical ointment</i>
Cyclosporine (Neoral, Restasis, Sandimmune) <i>Ophthalmic emulsion, oral solution</i>	Oxcarbazepine (Trileptal) <i>Oral suspension</i>	Testosterone (various) <i>Buccal patch, nasal gel, subcutaneous implant, topical gel, topical patch, topical solution</i>
Deferiprone (Ferroprox) <i>Oral solution</i>	Paroxetine (Paxil) <i>Oral suspension</i>	Valproic acid (Depakene) <i>Oral syrup</i>
Dinoprostone (Cervidil, Prepidil) <i>Vaginal gel, vaginal suppository</i>	Pentamidine (Nebupent) ^Z <i>Inhalation</i>	Valganciclovir (Valcyte) <i>Powder for oral solution</i>
Entecavir (Baraclude) <i>Oral solution</i>	Pentetate calcium trisodium (Ca-DTPA) <i>Inhalation</i>	Vigabatrin (Sabril) <i>Powder for oral solution</i>
Estradiol (various) <i>Topical cream, transdermal patch, vaginal tablet</i>	Phenytoin (Dilantin) <i>Oral suspension</i>	Voriconazole (Vfend) <i>Powder for oral suspension</i>
Estrogens, conjugated (Premarin) <i>Vaginal cream</i>	Pimecrolimus (Elidel) <i>Topical cream</i>	Zidovudine (Retrovir) <i>Oral syrup</i>
Fluconazole (Diflucan) <i>Powder for oral suspension</i>	Progesterone (Crinone, Endometrin) <i>Vaginal gel, vaginal tablet</i>	
Ganciclovir (Vitrasert, Zirgan) <i>Ophthalmic gel, ophthalmic insert</i>	Ribavirin (Rebetol, Virazole) <i>Inhalation, oral solution</i>	

Notes:

** This medication and dosage form is subject to alternative handling requirements based on assessment of risk. The alternative handling requirements may be found in Attachment B.

^Z Not considered hazardous in the NIOSH 2016 Hazardous Drugs List

^A New medication not yet considered by NIOSH for inclusion on the hazardous drugs list

Group 2-B: Non-antineoplastic hazardous medications when intact tablets or capsules

May be administered by any personnel authorized by the medical center to administer medications. Requires single gloving.

Oral Tablet or Capsule	
Abacavir (Ziagen)	Methylergonovine (Methergine)
Abacavir-dolutegravir-lamivudine (Triumeq)	Methyltestosterone (Android, Methitest, Testred)
Abacavir-lamivudine (Epzicom)	Mifepristone (Korlym, Mifeprex)
Abacavir-lamivudine-zidovudine (Trizivir)	Misoprostol (Cytotec)
Acitretin (Soriatane)	Mycophenolate (Cellcept, Myfortic)
Ambrisentan (Letairis)	Nevirapine (Viramune)
Azathioprine (Azasan, Imuran)	Ospemifene (Osphena)
Bosentan (Tracleer)	Oxcarbazepine (Oxtellar, Trileptal)
Cabergoline (Dostinex)	Paliperidone (Invega)
Carbamazepine (Carbatrol, Equetro, Tegretol)	Paroxetine (Brisdelle, Paxil, Pexeva)
Clomiphene (Serophene)	Phenoxybenzamine (Dibenzyline)
Clonazepam (Klonopin)	Phenytoin (Dilantin, Phenytek)
Colchicine (Colcrys, Mitigare)	Pipobroman (Vercyte)
Cyclosporine (Neoral, Sandimmune)	Progesterone (Prometrium)
Deferiprone (Ferriprox)	Propylthiouracil (PTU)
Diethylstilbestrol (Stilphostrol)	Raloxifene (Evista)
Divalproex (Depakote)	Rasagiline (Azilect)
Dronedarone (Multaq)	Ribavirin (Rebetol)
Dutasteride (Avodart)	Riociguat (Adempas)
Entecavir (Baraclude)	Risperidone (Risperdal)
Ergonovine (Ergotrate)	Sirolimus (Rapamune)
Eslicarbazepine (Aptiom)	Spironolactone (Aldactone)
Esterified estrogen-methyltestosterone (Covaryx, EEMT)	Tacrolimus (Astagraf, Envarsus, Prograf)
Estradiol (various)	Temazepam (Restoril)
Estrogens, conjugated (Premarin)	Teriflunomide (Aubagio)
Estrogens, esterified (Menest)	Tofacitinib (Xeljanz)
Estropipate (Ortho-Est)	Topiramate (Qudexy, Topamax, Trokendi)
Finasteride (Propecia, Proscar)	Ulipristal (Ella)
Fingolimod (Gilenya)	Uracil mustard (Uramustine)
Fluconazole (Diflucan)	Valganciclovir (Valcyte)
Fluoxymesterone (Androxy)	Valproic acid (Depakene, Stavzor)
Ganciclovir (Cytovene)	Vigabatrin (Sabril)
Lamivudine-zidovudine (Combivir)	Voriconazole (Vfend)
Leflunomide (Arava)	Warfarin (Coumadin, Jantoven)
Lomitapide (Juxtapid)	Zidovudine (Retrovir)
Macitentan (Opsumit)	Ziprasidone (Geodon)
Medroxyprogesterone (Provera)	Zonisamide (Zonegran)
Methimazole (Tapazole)	

Notes:

^Z Not considered hazardous in the NIOSH 2016 Hazardous Drugs List

^A New medication not yet considered by NIOSH for inclusion on the hazardous drugs list

Section 3: Non-Hazardous Medications Requiring Advanced Infusion Care

Group 3: Non-hazardous medications requiring advanced infusion care

Must be administered by a registered nurse who is certified in advanced infusion care. Requires full personal protective equipment.

Injection	
Abatacept (Orencia)	Necitumumab (Portrazza)
Alemtuzumab (Campath, Lemtrada)	Nivolumab (Opdivo)
Atezolizumab (Tecentriq)	Obinutuzumab (Gazyva)
Belimumab (Benlysta)	Ofatumumab (Arzerra)
Bevacizumab (Avastin)	Olaratumab (Lartruvo)
Blinatumomab (Blincyto)	Panitumumab (Vectibix)
Cetuximab (Erbix)	Pegaspargase (Oncaspar)
Daratumumab (Darzalex)	Pembrolizumab (Keytruda)
Dinutuximab (Unituxin)	Ramucirumab (Cyramza)
Eculizumab (Soliris)	Ravulizumab (Ultomiris)
Elotuzumab (Empliciti)	Rituximab (Rituxan)
Ibritumomab tiuxetan (Zevalin)	Siltuximab (Sylvant)
Infliximab (Remicade)	Tocilizumab (Actemra)
Infliximab-dyyb (Inflectra)	Tositumomab (Bexxar)
Ipilimumab (Yervoy)	Trastuzumab (Herceptin)
Natalizumab (Tysabri)	Vedolizumab (Entyvio)

Section 4: Medications Listed Under Resource Conservation and Recovery Act

p-list	
Arsenic trioxide	Physostigmine salicylate
Nitric oxide	Warfarin
Other	
Barium sulfate	Multivitamin with minerals
Chloral hydrate	Phenol
Chlorambucil	Resorcinol
Chromium picolinate	Selenious acid
Cyclophosphamide	Selenium sulfide
Daunorubicin	Silver nitrate
Formaldehyde	Silver sulfadiazine
Melphalan	Streptozocin
Mitomycin-C	Trifluridine (ophthalmic)
Any insulin preparation	Any preparation with alcohol content $\geq 24\%$
Any vaccine preparation with thimerosal	Any preparation with $\text{pH} \leq 2$
Any aerosol preparation with propellant	Any preparation with $\text{pH} \geq 12.5$