

**HAZARDOUS MEDICATION PRECAUTIONS:
PERSONAL PROTECTIVE EQUIPMENT (PPE)**
IMPLEMENTATION PHASE: MAY 2017 THROUGH FEBRUARY 2018

For Activities Performed Outside of the Pharmacy

Type of HD	Formulation	Activity	Double Gloves	Hazardous (Chemo) Gown	Eye Protection	N-95 Respirator Mask
Antineoplastic	Tablets, Capsules and Oral Liquids	Administration from unit-dose package*	No, single gloves only	No	Yes, if vomit or potential to spit up†	No
	Injectables, Topicals and Other Dosage Forms	<ul style="list-style-type: none"> Administering Withdrawing from vial or ampoule 	Yes	Yes	Yes, if liquid could splash‡; or with BCG	Yes, if inhalation potential‡; or with BCG
	Contaminated body fluid, clothing, dressings, linens, and other materials	Disposal and cleaning	Yes	Follow Standard Precautions	Yes, if liquid could splash†	Yes, if inhalation potential
Non-Antineoplastic	Tablets, Capsules and Oral Liquids	Administration from unit-dose package*	No, single gloves only	No	Yes, if vomit or potential to spit up†	No
	Injectables, Topicals and Other Dosage Forms	<ul style="list-style-type: none"> Administering Withdrawing from vial or ampoule 	No, single gloves only	No	Yes, if liquid could splash†	Yes, if inhalation potential‡
	Contaminated body fluid, clothing, dressings, linens, and other materials	Disposal and cleaning	No, single gloves only	Follow Standard Precautions	Yes, if liquid could splash†	Yes, if inhalation potential
All HDs	Spills and leaks	Cleaning	Yes	Yes	Yes	Yes

* Do not cut or crush tablets. Do not open capsules. If liquid formulation is needed, contact the pharmacy.

† Required if patient may resist (infant, unruly patient, patient pre-disposed to spitting out, or patient who has difficulty swallowing) or if the formulation is hard to swallow. Required if withdrawing medication from a vial or ampoule.

‡ Required when withdrawing medication from a vial or ampoule.

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For Activities Performed Within the Pharmacy

Formulation	Activity	Type of HD	Double Gloves	Hazardous (Chemo) Gown	Eye Protection	N-95 Respirator Mask	Perform in Biological Safety Cabinet
All formulations	<ul style="list-style-type: none"> • Receiving • Unpacking • Placing in storage 	All HDs	No, single gloves only	No	No	No	No
All formulations	<ul style="list-style-type: none"> • Cutting, crushing, or otherwise manipulating tablets and capsules • Sterile and non-sterile compounding 	All HDs	Yes (Phenol use double nitrile gloves)	Yes	No	No	Yes
<ul style="list-style-type: none"> • Tablets • Capsules • Oral or topical liquids 	<ul style="list-style-type: none"> • Counting or repackaging* • Pouring from one container to another† 	All HDs	No, single gloves only	No	No	No	No
Spills and leaks	Cleaning	All HDs	Yes	Yes	Yes	Yes	N/A

* Use clean equipment dedicated for use with hazardous medications and decontaminate after every use. Do not use pre-packaging or automated counting machines for antineoplastic tablets and capsules.
† Use caution when pouring liquids to prevent spills

VUMC Hazardous Medication List

Approved by the Pharmacy Safety Committee

Refer to Hazardous Medication Precautions - Personal Protective Equipment (PPE) charts to identify PPE; note separate charts for activities performed outside the pharmacy vs those within the pharmacy.

Note: Antineoplastic medications are highlighted in yellow

Generic Name	Trade Name
abacavir	Ziagen
abemaciclib	Verzenio
abiraterone	Zytiga
acalabrutinib	Calquence
acitretin	Soriatane
ado-trastuzumab	Kadcyla
afatinib	Gilotrif
alectinib	Alecensa
alitretinoin	Panretin
altretamine	Hexalen
ambrisentan	Letairis
amsacrine	AMSA PD
anastrozole	Arimidex
apalutamide	Erleada
apomorphine	Apokyn
arsenic trioxide	Trisenox
axitinib	Inlyta
aza CITID ine	Vidaza
aza THIO prine	Imuran
BCG vaccine	Theracys; Tice Vaccine
belinostat	Beleodaq
bendamustine	Bendeka, Treanda
bexarotene	Targretin
bicalutamide	Casodex
bleomycin	Blenoxane
bortezomib	Velcade
bosentan	Tracleer
bosutinib	Bosulif
brentuximab vedotin	Adcetris
brigatinib	Alunbrig
busulfan	Busulfex; Myleran
cabazitaxel	Jevtana
cabergoline	Dostinex
cabozantinib	Cabometyx; Cometriq
capecitabine	Xeloda
car BAM azepine	Tegretol
CARBO platin	Paraplatin
carfilzomib	Kyprolis
carmustine	BiCNU, Gliadel
ceritinib	Zykadia
cetrorelix	Cetrotide
chlorambucil	Leukeran

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Generic Name	Trade Name
chloramphenicol	Econochlor; Chloromycetin
choriogonadotropin	Ovidrel
cidofovir	Vistide
CIS platin	Platinol-AQ
cladribine	Leustatin; 2-CDA
clofarabine	Clolar
clomi PHENE	Clomid
clonaze PAM	Klonopin
cobimetinib	Cotellic
colchicine	Colcrys
crizotinib	Xalkori
cyclophosphamide	Cytosan
cyclo SPORINE	Sandimmune; Neoral; Gengraf
cytarabine	ARA-C; Cytosar-U
cytarabine, liposomal	Depocyt
dabrafenib	Tafinlar
dacarbazine	DTIC
DACTIN omycin	Cosmegen
dasatinib	Sprycel
DAUNO rubicin	Cerubidine; Daunomycin
DAUNO rubicin, liposomal	Daunoxome
decitabine	Dacogen
deferiprone	Ferriprox
degarelix	Firmagon
dexrazoxane	Zinecard; Totect
diethylstilbestrol	NA
dinoprostone	Prepidil
divalproex	Depakote
DOCE taxel	Taxotere
DOXO rubicin	Adriamycin
DOXO rubicin, liposomal	Doxil; Lipodox
dronedarone	Multaq
durvalumab	Imfinzi
dutasteride	Avodart
efavirenz	Sustiva
enasidenib	Idhifa
entecavir	Baraclude
enzalutamide	Xtandi
epi RUB icin	Ellence
ergonovine/methylergonovine	Ergotrate, Methergine
eri BUL in	Halaven
erlotinib	Tarceva
eslicarbazepine	Aptiom
estradiol	Estrace

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Generic Name	Trade Name
estramustine	Estracyt
estrogen/progesterone combinations	Prochieve, Endometrin, Prometrium
estrogens, conjugated	Premarin
estrogens, esterified	Enjuvia
estropipate	Ogen
etoposide	Toposar; VP 16
etoposide phosphate	Etopophos
everolimus	Afinitor
exemestane	Aromasin
finasteride	Propecia; Proscar
fingolimod	Gilenya
floxuridine	FUDR
fluconazole	Diflucan
fludarabine	Fludara
fluorouracil	Fluorouracil (5-FU), Efudex
fluoxymesterone	Halotestin
flutamide	Eulexin
fosphenytoin	Cerebyx
fulvestrant	Faslodex
ganciclovir	Cytovene
ganirelix	Antagon
gefitinib	Iressa
gemcitabine	Gemzar
gemtuzumab ozogamicin	Mylotarg
gonadotropin, chorionic	Novarel, Pregnyl
goserelin	zoladex
histrelin	Supprelin
hydrochloric acid (2N concentrated solution; diluted)	hydrochloric acid
hydroxyurea	Hydrea
ibrutinib	Imbruvica
icatibant	Firazyr
IDA rubicin HCL	IDA rubicin HCL
idelalisib	Zydelig
ifosfamide	Ifex
imatinib mesylate	Gleevec
inotuzumab ozogamicin	Besponsa
irinotecan	Camptosar
ISO tretinoin	Accutane, Claravis
ixabepilone	Ixempra
ixazomib	Ninlaro
lapatinib	Tykerb
leflunomide	Arava
lenalidomide	Revlimid
lenvatinib	Lenvima

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Generic Name	Trade Name
letrozole	Femara
leuprolide	Eligard, Lupron
liraglutide recombinant	Victoza
lomitapide	Juxtapid
lomustine	CeeNU
macitentan	Opsumit
mechlorethamine	Mustargen
medroxy PROGESTER one acetate	Provera, Depo-Provera, Depo-SubQ Provera
megestrol	Megace, Megestrol
melphalan	Alkeran
menotropins	Repronex
mercaptopurine	Purinethol
meth IMA azole	Tapazole
METHO trexate	Mexate-AQ
methyl TESTOSTER one	Android, Methitest
midostaurin	Rydapt
mifepristone	Korlym
mipomersen	Kynamro
mi SOPRO stol	Cytotec
mito MY cin	Mutamycin
mitotane	Lysodren
mito XANTRONE	Novantrone
mycopheno LATE mofetil	Cellcept
mycopheno LIC ACID	Myfortic
nab- PACL itaxel protein-bound particles	Abraxane
nafarelin	Synarel
nelarabine	Arranon
neratinib	Nerlynx
nevirapine	Viramune
nilotinib	Tasigna
nintedanib	Ofev
niraparib	Zejula
olaparib	Lynparza
olaratumab	Lartruvo
omacetaxin	Synribo
osimertinib	Tagrisso
ospemifene	Osphena
Oxaliplatin	Eloxatin
OX carbazepine	Trileptal
oxytocin	Pitocin, Syntocinon
PACL itaxel	Taxol
palbociclib	Ibrance
palifermin	Kepivance

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Generic Name	Trade Name
paliperidone	Invega
pamidronate	Aredia
panobinostat	Farydak
PAR oxetine	Paxil
pasireotide	Signifor
PAZO panib	Votrient
PEME trexed disodium	Alimta
pentetate calcium trisodium	N/A
pentostatin	Nipent
pertuzumab	Perjeta
phenol	N/A
phenoxybenzamine	Dibenzyline
phenytoin	Dilantin
pipobroman	Vercite
plerixafor	Mozobil
pomalidomide	Pomalyst
PONAT inib	Iclusig
PRALA trexate	Folotyn
procarbazine	Matulane
progesterone	Crinone, Endometrin, First-Progesterone VGS 100, First-
progestins	Fallback Solo, Implanon, Levonorgestrel, Micronor,
propylthiouracil	Propyl-Thyracil
raloxifene	Evista
rasagiline	Azilect
regorafenib	Stivarga
ribavirin	Virazole, Rebetrol
ribociclib	Kisqali
riociguat	Adempas
risperi DONE	Risperdal
romi DEP sin	Istodax
rucaparib	Rubraca
ruxolitinib	Jakafi
sirolimus	Rapamune
sonidegib	Odomzo
SORAF enib	Nexavar
spironolactone	Aldactone
streptozocin	Zanosar
SUNIT inib	Sutent
tacrolimus	Prograf, Protopic
tamoxifen	Nolvadex
telavancin	Vibativ
temazepam	Restoril
temozolomide	Temodar
temsirolimus	Torisel

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Generic Name	Trade Name
teniposide	Vumon
teriflunomide	Aubagio
testosterone	Androgel
thalidomide	Thalomid
thioguanine	Tabloid
thiotepa	Thiotepa, Tepadina
tofacitinib	Xeljanz
topiramate	topamax
topotecan	Hycamtin
toremifene	Fareston
trabectedin	Yondelis
trametinib	Mekinist
trastuzumab	Herceptin
tretinoin (All Trans Retinoic Acid or ATRA)	Retin-A, Vesanoid
trifluridine/tipiracil hydrochloride	Lonsurf
triptorelin	Trelstar
ulipristal	Ella
uracil mustard	NA
valGANciclovir	Valcyte
valproate/valproic acid	Depakote
valrubicin	Valstar
vandetanib	Caprelsa
vemurafenib	Zelboraf
venetoclax	Venclexta
vigabatrin	Sabril
vinBLAS ^{tine}	vinBLAS ^{tine}
vinCRIS ^{tine}	Vincaspar PFS
vinorelbine	Navelbine
vismodegib	Erivedge
voriconazole	Vfend
vorinostat	Zolinza
warfarin	Coumadin
zidovudine	Retrovir
ziprasidone	Geodon
ziv-aflibercept	Zaltrap
zoledronic acid	Reclast, Zometa
zonisamide	Zonegran
References: 1. National Institute for Occupational Safety and Health (NIOSH) List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2016. Retrieved from http://www.cdc.gov/niosh/topics/antineoplastic/pdf/hazardous-drugs-list_2016-161.pdf 2. Vanderbilt Specialty Pharmacy Drug List, 3. VUMC Safety Policy: Hazardous Medication Handling 4. Pharmacy SOP: Hazardous Medication and Product Handling	