

Most Waste Medicines are Hazardous or Dangerous Waste

When discarded, most medicines designate as either hazardous waste under the federal Resource Conservation and Recovery Act (RCRA) (42 USC 6901) and/or as dangerous waste under the Washington State Dangerous Waste regulations (Chapter 173-303 WAC).¹

After RCRA was established in 1976, lists of hazardous wastes were developed, which included chemotherapy drugs and other medicines available in 1976. Under RCRA, about 5% of medicines designate as hazardous waste. Unfortunately, the RCRA lists have not been updated to consider the thousands of new medicines, including chemotherapy drugs that have been developed in the last thirty years. If the lists were updated, approximately 15% of medicines would be considered hazardous.²

In addition to the medicines that designate as hazardous waste, many more medicines designate under Washington State's Dangerous Waste regulations, which are more stringent than RCRA. In addition to the federal lists and characteristics in RCRA, Washington State considers toxicity and persistence as criteria for designating waste as dangerous under WAC 173-303-100.

Hazardous waste medicines from businesses must be disposed at permitted hazardous waste facilities and cannot be disposed in municipal waste landfills, municipal incinerators, or medical waste plants.³ Medicines that designate as Washington State dangerous waste must be disposed in a high temperature incinerator or permitted hazardous waste disposal facility.⁴ State and Federal regulations exempt household waste from hazardous waste regulation; however the medicines are just as toxic. To be most protective of public health and the environment, the large quantities of unwanted medicines collected in a statewide medicine return program should all be disposed at hazardous waste disposal facilities.

Examples of commonly used medicines that designate as federal hazardous waste or Washington State dangerous waste are provided on the following pages.

¹ WA Dept. of Ecology. (2008) *Guide for Dangerous Pharmaceutical Waste Generators in Washington State*, Publication 07-04-025. Accessed online 5/12/2010 from <http://www.ecy.wa.gov/pubs/0704025.pdf>

² Smith, C. (2009). Personal correspondence from Charlotte Smith founder of PharmEcology, a company that assists the health care and pharmaceutical industry with managing pharmaceutical waste. PharmEcology is now owned by Waste Management.

³ Washington State Dangerous Waste Regulations, WAC 173-303-141 Accessed online 5/12/2010 from <http://apps.leg.wa.gov/wac/default.aspx?cite=173-303-141>

⁴ WA Dept. of Ecology. (2008) *Guide for Dangerous Pharmaceutical Waste Generators in Washington State*, Publication 07-04-025 Accessed online 5/12/2010 from <http://www.ecy.wa.gov/pubs/0704025.pdf>

The following is a *sample* of common medicines that designate under the **federal Resource Conservation and Recovery Act (RCRA)**.

Medicine	Generic name (constituent)	Treats	Manufacturer	Waste Code
<i>**P and U listed waste must contain constituent as sole-active ingredient and be unused or discarded</i>				
Leukeran	Chlorambucil	Cancer	GlaxoSmith Kline	U035
Adipex, Ionamin	Phentermine	Obesity (appetite suppressant)	Gate	P046
Coumadin	Warfarin	Blood clots (anti-coagulant)	Bristol Myer Squibb, Barr, Taro	P001 or U248
Erythromycin Topical Solution	Erythromycin	Acne	Fougere, multiple producers	D001
Texacort Solution, 1%	Hydrocortisone	Itching	Yamanouchi, multiple producers	D001
Nicotine patches; Habitrol; Nicoderm; Nicorette; Nicotrol; Tetrahydronicotyrine	Nicotine and Salts	Addiction	ALZA (Johnson & Johnson), multiple producers	P075
Cytosan, Neosar	Cyclophosphamide	Cancer	Bristol Myer Squibb	U035
Diethylstilbestrol, DES (synthetic estrogen), Stilphostrol,	Diethylstilbesterol	Cancer contraceptive (veterinary medicine)	Multiple producers	U089
Alkeran; L-PAM; Melphalan	Melphalan	Cancer	GlaxoSmith Kline, Delcath Systems, Inc	U150
pHisoHex™, Septisol	Hexachlorophene	Skin (antibacterial)	Sanofi-Aventis U.S. LLC	U132
EpiPen	Epinephrine	Anaphylaxis, severe allergic reaction	Dey Laboratories	P042
Silver nitrate applicators	Silver nitrate	Open wounds or nosebleeds	Arzol	D011
SSD Cream, Silvadene	Silver sulfadiazine	Burns	Aventis, King	D011

The following is a *sample* of common medicines that designate under **Washington's Dangerous Waste regulations**. The waste code may be WT01 or WT02; or WP01, WP02, or WP03 depending on the level of toxicity and/or persistence:

Medicine	Generic name (constituent)	Treats	Manufacturer	Waste Code
Zoloft	Sertraline	Depression	Pfizer	WT02
Zocor, Vytorin	Simvastatin, Ezetimibe	High cholesterol	Merck, Schering-Plough, Schering	WT02
Hyzaar	Losartan & hydrochlorothiazide	Hypertension	Merck	WT02
Fosamax Plus D	Alendronate sodium	Osteoporosis	Merck, Watson	WT02
Tylenol w/codeine, Phenaphen, Capital + Codeine	Acetaminophen/ Codeine phosphate	Pain	Ortho-McNeil, Pharmaceutical Associates	WT02
Aspirin	Acetylsalicylic Acid (depending on concentration)	Pain	Teva, Watson, Bayer Consumer & multiple producers	WT02
Retin-A Micro	Tretinoin	Rosacea	Johnson & Johnson	WT02
Benza-Clin	benzoyl peroxide-clindamycin topical	Acne	Sanofi-Aventis	WT02
Advil	Ibuprofen	Inflammation; pain	McNeil Consumer, Watson, Abbott, Pharmaceutical Associates	WT02
Ritalin, Concerta	Methylphenidate HCL	Attention deficit disorder	Novartis, McNeil Consumer	WT02
Ventolin, VoSpice ER, Combivent Inhalation, ProAir HVA, ProVentil, AccuNeb	Albuterol	Wheezing	GlaxoSmith Kline, Boehringer Ingelheim, Dey, Watson, Teva, Schering	WT02
Xylocaine	Lidocaine HCL	Ventricular arrhythmias	AstraZeneca	WT02
Wellbutrin, Zyban	Bupropion	Depression	GlaxoSmith Kline, Mylan, Watson	WT02
Zantac, Tritac	Ranitidine HCL	Ulcers, reflux	GlaxoSmith Kline, Boehringer	WT02
Rheumatrex Dose Pack, Trexall, Folex PFS, Methotrexate Sodium, Preservative Free	Methotrexate	Cancer, rheumatoid arthritis	Mylan	WT02
Dimetapp, Cardec, Bromfed	Brompheniramine and pseudoephedrine	Cough	Wyeth, multiple producers	WP02
Chlor-Trimeton, Aller-Chlor syrup	Chlorpheniramine	Allergies, hay fever, sneezing, etc.	Schering Plough, multiple producers	WP02