

**FINAL REPORT
ALACHUA COUNTY ENHANCED SMALL QUANTITY GENERATOR GRANT
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AGREEMENT NO. S0359
AMENDMENT No. 4**

1.0 INTRODUCTION

Pharmaceuticals and personal care products (PPCPs) are increasingly documented in surface water and groundwater in the U.S. and throughout the world. PPCPs have probably been present in water and the environment for as long as humans have been using them. However, with advances in technology that improves the ability to detect and quantify these chemicals, we can now begin to identify what effects, if any, these chemicals have on human and environmental health. Potential sources of PPCPs are wastewater from centralized domestic sewage treatment plants and onsite sewage treatment and disposal systems. PPCPs can make it to the domestic sewage waste stream either by the direct disposal of medications or as byproducts of drugs not entirely absorbed by our bodies, and excreted and passed into sanitary sewer system.

On January 11th, 2011 the Alachua County Environmental Protection Department (ACEPD) entered into an agreement with the Florida Department of Environmental Protection (FDEP) to perform hazardous waste generator compliance assistance visits (CAV) of businesses in Alachua County as part of the FDEP Enhanced Small Quantity Generator program (ESQG). This is the 4th year of this agreement; the primary focus for this contract period was assessing the current management of PPCPs in the County. The work and the data collected during this year is a continuation of the work and data collected during the 3rd year of the agreement (2009 – 2010). For the year, the program was expanded to include the management of pharmaceutical at veterinary facilities and feed stores. This report presents a summary of the work performed by ACEPD, selected statistics on the CAV inspections and conclusions based on the results of the project.

2.0 SCOPE OF WORK

1. ACEPD conducted 54 hazardous waste generator compliance assistance visits (CAV) of businesses in Alachua County. The inspections were conducted at assisted living facilities (4), cancer clinics (3), dental offices (1), general medical facilities (1), hospitals (4), veterinary clinics (33); and feed stores (8).
2. All CAV were documented using NED approved inspection forms and checklists in order to identify potential hazardous waste compliance violations. The following forms were used to document the CAV inspections: FDEP CESQG Checklist, FDEP SQG Checklist, FDEP Short Form Inspection, FDEP Universal Pharmaceutical Waste Checklist, and ACEPD Hazardous Materials Management Inspection form, business closure notification memorandum and facility follow up CAV inspection memorandum. Appendix A contains samples of all the forms used for the CAV inspections. Additionally all inspections were documented with digital pictures. All the checklists, documentation, pictures and data were managed electronically using a Microsoft Sharepoint Site. Digital copies of all the completed inspection forms and pictures are included with this report.

3. ACEPD distributed Best Management Practices (BMP) fact sheet, a Compliance Assistance poster, and a bookmark with information on the proper management and disposal of pharmaceuticals developed during the 3rd year of this agreement and a Compliance assistance BMP and poster developed by the American Veterinary Medical Association. The compliance assistance information was distributed as part of the CAV inspections. EPD staff also distributed the current edition of the FDEP brochure “A Guide on Hazardous Waste Management for Florida’s Pharmacies” and FDEP’s List of Pharmaceuticals that are Potentially Hazardous When Discarded. Appendix B contains copies of the compliance assistance materials distributed as part of the inspections. Additionally, a copy of the “Notification of Regulated Activity Form 8700-12FL” was provided to all regulated non-notifiers that were identified as part of the CAV.

4. CAV information was also documented in the FDEP CHAZ_ SQG data management system.

3.0 RESULTS

3.1 General Information

ACEPD completed a total of 54 hazardous waste generator compliance assistance visits (CAV) of businesses in Alachua County. Table 1 list the number of inspections grouped by business type.

Table 1. Inspections by Business Type

ACEPD	Facility	FDEP#	
H1081	SIGNATURE HEALTHCARE		Assisted Living
H1231	STERLING HOUSE		Assisted Living
H1232	CLARE BRIDGE		Assisted Living
H1233	PALM GARDEN OF GAINESVILLE		Assisted Living
3319-10	COMMUNITY CANCER CENTER OF NORTH FLORIDA		Cancer Clinic
1877-10	NORTH FLORIDA RADIATION ONCOLOGY, LLC		Cancer Clinic
H1355	FLORIDA CANCER SPECIALISTS AND RESEARCH INSTITUTE		Cancer Clinic
H1347	ASPEN DENTAL		Dental Office
2847-03	TRACTOR SUPPLY COMPANY		Feed Store
H1312	MIDWEST FEED & FARM NEWBERRY		Feed Store
H1313	MIDWEST FEED & FARM ARCHER		Feed Store
H1314	MIDWEST FEED & FARM HIGH SPRINGS		Feed Store
H1315	NEWBERRY FEED & SEED		Feed Store
H1316	ALACHUA COUNTY FEED & SEED		Feed Store
H1302	OLIVER& DAHLMAN EQUIPMENT COMPANY		Feed Store
H1366	ALACHUA FARM LUMBER CENTER		Feed Store
H1363	NORTH FLORIDA RADIATION ONCOLOGY, LLC		Medical Facility
0541-00	SHANDS TEACHING HOSPITAL	FLD982140170	Medical Hospital
H1140	SHANDS SOUTH TOWER	FLR000161265	Medical

			Hospital
0696	SHANDS CANCER HOSPITAL	FLR000085795	Medical Hospital
0359-00	NORTH FLORIDA REGIONAL MEDICAL CENTER	FLD982129926	Medical Hospital
1353	WESTSIDE ANIMAL HOSPITAL		Veterinary
1252	OAKS VETERINARY HOSPITAL		Veterinary
1323	SUBURBAN ANIMAL HOSPITAL		Veterinary
H1030	ALL CREATURES FAMILY PET HOSPITAL		Veterinary
1782	ALACHUA COUNTY ANIMAL SERVICES		Veterinary
1393-00	AALATASH ANIMAL HOSPITAL		Veterinary
2732-11	BANFIELD PET HOSPITAL		Veterinary
1378	AALATASH ANIMAL HOSPITAL		Veterinary
1777-10	MICANOPY ANIMAL HOSPITAL		Veterinary
1785	HAILE PLANTATION ANIMAL HOSPITAL		Veterinary
1041	ARCHER ANIMAL HOSPITAL		Veterinary
2659	WESTEND ANIMAL HOSPITAL		Veterinary
2848-06	JONESVILLE ANIMAL HOSPITAL		Veterinary
1784	ALL CATS HEALTHCARE		Veterinary
0409	SHORES ANIMAL HOSPITAL		Veterinary
1332-00	TIMBERVIEW PET CLINIC		Veterinary
1337	TRI-COUNTY VETERINARY SERVICE		Veterinary
H1303	SPRINGHILL EQUINE VETERINARY CLINIC P. A.		Veterinary
H1317	LOVE YOUR PET VET		Veterinary
1092	COUNTRYSIDE ANIMAL HOSPITAL		Veterinary
1182	HIGH SPRINGS ANIMAL HOSPITAL		Veterinary
H1015	AFFILIATED PET EMERGENCY SERVICES		Veterinary
H1320	INSTITUTE OF VETERINARY SPECIALISTS		Veterinary
3707	HILLTOP ANIMAL HOSPITAL		Veterinary
1244	NEWBERRY ANIMAL HOSPITAL		Veterinary
2097-13	BUTLER PLAZA ANIMAL HOSPITAL		Veterinary
2588	NORTHWOOD OAKS VETERINARY HOSPITAL		Veterinary
H1143	TOWN AND COUNTRY VETINARIANS AND PET RESORT		Veterinary
1147	GAINESVILLE ANIMAL HOSPITAL WEST		Veterinary
H1346	EARTH VETS		Veterinary
H1360	TIMBERVIEW PET CLINIC		Veterinary
1213	LAKE AREA ANIMAL HOSPITAL		Veterinary
1146	GAINESVILLE ANIMAL HOSPITAL		Veterinary

3.2 Compliance Information

As part of the CAV inspections, ACEPD staff verified compliance with federal, state and local Hazardous Waste management requirements. ACEPD staff observed very few documented violations of the Hazardous Waste Rules (62-730 F.A.C) or the Universal Pharmaceutical Waste Rule (62-730.186 F.A.C). Only one facility, the Florida Cancer Specialists and Research Institute had potential compliance issues. The facility was referred to the Florida Department of Environmental Northeast Branch office for follow-up inspections. Table 2 has summary information on the compliance information collected as part of this project. A number of the inspections, specifically those at assisted living facilities and hospitals were follow-up visit from 2009-2010. All previous violations were corrected and all the facilities were following the recommended Best Management Practices. Changes implemented, as a result of this program, by some of the local assisted living facilities (Palm Gardens, Clare Bridge House and Sterling House) resulted in operational changes in all of the their branches across the U.S.A.

In addition to compliance with the Federal, State and local rules, ACEPD staff also verified adherence to the recommended Best Management Practices for the management of waste pharmaceuticals. ACEPD staff did to observe significant deviations from the recommended practices.

Since 2004, Alachua County has operated a residential pharmaceutical waste collection program in Alachua County. County residents can safely dispose of their unwanted pharmaceuticals by taking them to the County's Hazardous Waste Collection Center or to three satellite collection facilities. An unexpected benefit of the CAV was the addition of more satellite pharmaceutical waste collection sites for the existing waste collection program. As a direct result of this program we have added eight more locations (Shands Outpatient Pharmacy, Southeastern Medical Plaza Pharmacy, Aalatah Vet Hospital, Westend Animal Hospital, Suburban Animal Hospital, Alachua County Animal Services, The Villages and Signature Healthcare) and there is the possibility of adding a couple more. The additional collection points will facilitate the proper disposal of the unwanted pharmaceuticals and will keep them out of the domestic water stream. For additional information on the County's Hazardous Waste program please visit: www.alachuacountyhazwaste.us

3.3 Pharmaceutical / Medical Drug Waste Questionnaire Results

As part of the CAV inspections, ACEPD conducted a survey of the inspected facilities in order to obtain general data regarding their pharmaceutical / drug waste management practices. A copy of the form can be found in Appendix A. Summary information for selected questions is presented in this section.

Question 1: Are the services of a Reverse Distributor available to this facility?

98% of the facilities inspected indicated that reverse distribution of medication was available to them. 83% of those facilities regularly use the reverse distribution system.

Question 2: Do you know what a RCRA waste is?

53% of the facilities surveyed did not know what a RCRA waste was.

Question 3: Are patients or customers asking questions on how to dispose of unwanted medications?

40% of the facilities reported that they receive questions from their customers regarding the proper disposal of pharmaceutical waste.

Question 4: Are you aware of FDEP/ACEPD suggested disposal options?

Only 9% (4 facilities) were aware of the FDEP/ACEPD recommended disposal option. However as stated above, most of them were following the recommended BMPs.

Question 5: Do you keep records to track drug wastes, quantities and where it goes?

59% of the facilities surveyed stated that they maintained records regarding their waste management disposal practices.

3.4 Time Management Data

Table 4 shows a breakdown by activity type. Report writing includes the time spent writing the inspections reports. The inspection time includes only the time spent on the field conducting the inspections. Table 5 shows an estimated breakdown by business type.

Table 4. Hours by Project Activity

Activity	Total Hours
Report Writing	289
Hazmat Inspections	158
Technical Research or Review	115
Administrative	44
Materials Development	10
Total	616

Table 5. Hours by business type

Business	Total Hours
Veterinary	376
Feed Store	91
Medical Facility	57
Assisted Living	46
Cancer Clinic	34
Dental Office	11
Total	616

4.0 CONCLUSIONS

1. **Compliance with existing regulations:** The CAV identified only one out of compliance facility.
2. **Compliance with recommended Best Management Practices:** Most of the inspected facilities were in significant compliance with the recommended Best Management Practices. A number of

the inspections, specifically those at assisted living facilities and hospitals were follow-up visit from 2009-2010. All previous violations were corrected and all the facilities were following the recommended Best Management Practices. Changes implemented, as a result of this program, by some of the local assisted living facilities (Palm Gardens, Clare Bridge House and Sterling House) resulted in operational changes in all of their branches across the U.S.A.

- 3. Hazardous Waste Collection Program:** An unexpected benefit of this initiative was the addition of satellite collection points to our existing pharmaceutical waste collection program. As a direct result of this program we have added eight more locations: Shands Outpatient Pharmacy, Southeastern Medical Plaza Pharmacy, Aalatah Vet Hospital, Westend Animal Hospital, Suburban Animal Hospital, Alachua County Animal Services, The Villages and Signature Healthcare. The increase in the number of drop off collection should correlate with an increase in the amount of pharmaceutical waste collected.
- 4. Outreach Campaign:** As stated in section 3.3, only a very small number of the facilities inspected were aware of the existing regulation and Best Management Practices, however most of them were in significant compliance with the recommended BMP. It appears that professional organizations such as the American Veterinary Medical Association have done an excellent job of addressing the proper management of waste pharmaceuticals.

APPENDIX A

NOTICE OF POTENTIAL HAZARDOUS WASTE / UPW NON-COMPLIANCE - Page 1 of 2

FACILITY NAME HarborChase Assisted Living		TYPE OF INSPECTION: X CAV . CEI CI OTHER:	
CONTACT PERSON Kavin Paul - Director of Resident Care		PHONE NUMBER (352) 332-4505	
ADDRESS 1415 Fort Clarke Blvd		CITY Gainesville	STATE FL
ZIP CODE 32606			
COUNTY Alachua	EPA ID NUMBER	DATE OF INSPECTION 04/21/10	TIME OF INSPECTION 12:30 p.m.
GENERATOR STATUS? Non-Handler		Latitude	Longitude
FOLLOW UP CEI INSPECTION WITHIN 120 DAYS NEEDED? X YES NO		N 29 ° 39 ' 59.508 "	W 82 ° 26 ' 2.579 "
INSPECTION PARTICIPANTS Chris Gilbert, Kavin Paul		SIC CODE 8051 Skilled Nursing Care Facilities	
<p><i>This is not a formal enforcement action and may not be a complete listing of all items of non-compliance existing at the time of inspection.</i></p>			

HW GENERAL REQUIREMENTS:

- Failure to ensure delivery of HW to proper HW facility § 261.5
- Failure to perform hazardous waste determination § 262.11
- Failure to notify as hazardous waste generator § 262.12
- Failure to use a manifest or reclamation agreement § 262.20
- Failure to provide personnel training § 262.34, 265.16
- Evidence of releases of hazardous waste § 265.31
- Facility exceeds 90/180 day time limit § 262.34
- _____

HW CONTAINER MANAGEMENT:

- Unlabeled containers § 262.34
- Undated containers § 262.34
- Leaking or rusting containers § 265.171
- Bulging containers § 265.172
- Open containers § 265.173
- Inadequate aisle space § 265.35
- _____

MATERIALS PROVIDED to assist in accomplishing corrective actions

- FDEP Guide for Florida Pharmacies
- ACEPD Pharmaceutical Poster
- FDEP List of Pharmaceuticals
- List of Fl. Reg. Reverse Distributors
- FDEP Pharmaceutical Waste Guide
- ACHWCC Resident Med Disposal
- ACEPD Pharmaceutical BMP
- Other _____

UPW REQUIREMENTS:

- Failure to label containers
- Failure to respond to releases
- Failure to document RD/RTM disposals
- Improper disposal of universal Pharmaceutical Wastes
- Failure to label UPW container
- Improper storage of UPW
- _____

HW RECORDKEEPING REQUIREMENTS:

- Manifests § 262.40, § 262.44
- Modified contingency plan § 262.34
- Weekly container inspection records § 265.174
- Authorities not notified § 265.37
- Test results, waste analyses, and determinations § 262.40(c)
- _____

FLORIDA FACT SHEETS:

- Summary of Hazardous Waste Regulations
- Container Inspection Log
- ER / Contingency Plan Example
-
-

NOTICE OF POTENTIAL HAZARDOUS WASTE/ UPW NON-COMPLIANCE - Page 2 of 2

COMMENTS:

HarborChase Assisted Living is an Assisted Living Care Facility. HarborChase purchased and took over facility in 2010. Previous to this the facility was Eden Garden Assisted Living from construction of facility in 2001 - 2010. This inspection was unannounced by the Alachua County Environmental Protection Department Inspector.

Facility is on COG POTW Water & Sewer.

Facility has (2) MDs. (0) RNs. (7) LPNs. (1) ARPN. (1) Pharmacist. Facility operates (3) shifts, 7 days a week.

Facility utilizes reverse distribution for expired pharmaceuticals via Senior Meds. Switching to Guardian as of 05/2010 for reverse distribution.

Controlled Medications separated and currently flushed down POTW.

Dispensary cabinet double locked.

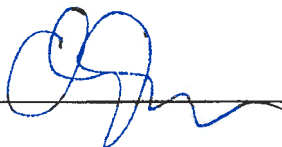
Provided FDEP Pharmacy Handbook, FDEP List of Pharmaceuticals, FDEP Pharmaceutical Waste Guide, ACEPD Pharmaceutical BMP & Poster.

Please send your response to the person signing as "INSPECTOR."
Alachua County Environmental Protection Department
201 S.E 2nd Avenue. Suite 201, Gainesville, FL 32601

The actions taken within 30 days of this notice will be considered in determining whether enforcement, including the assessment of penalties, should be initiated.

If you have any questions, contact Chris Gilbert (352) 264-6842

INSPECTOR (signature):



DATE: 4-26-10

CESQG CHECKLIST

Facility Name: HarborChase Assisted Living

Date: 04/21/10

Facility Representative: Kevin Paul

Facility ID #: _____

SIC Codes: 8051

Inspector: Chris Gilbert

40 CFR 261.5

1. Describe the facility's hazardous and potentially hazardous waste streams 40 CFR 262.11:

Waste	EPA Waste Codes	Generation Rate	Disposal facility?	Proper Waste ID?

(describe discrepancies in waste identification in narrative)

Standards for Conditionally Exempt Small Quantity Generators - 40 CFR 261.5

2. Does the facility generate less than 100 kg/mo (220 lb/mo) of all hazardous wastes? Y X N _____
 And less than 1kg/mo of acutely toxic (P-listed, 40 CFR 262.33) hazardous wastes? Y X N _____
3. Has the facility obtained an EPA ID Number? (not required for CESQGs) Y _____ N X _____
- RF 4. Is the facility disposing of all its hazardous wastes to facilities permitted to accept the waste? (40 CFR 261.5) Describe discrepancies in narrative. Y X N _____
5. Is the facility disposing of hazardous waste by mixing with used oil? Y _____ N _____ NA
6. Can the facility document proper disposal of all hazardous wastes? Y X N _____ Violation
7. Are any hazardous wastes treated or disposed of on site? Describe in narrative: Y _____ N X _____
8. Are there any unpermitted discharges of other wastes to the environment? Y _____ N X _____

Universal Pharmaceutical Waste Checklist

Facility Name: Florida Cancer Specialist & Research Institute

Date: 3/10/2011

Facility Representative: Pearl Hess & John Dodd

EPA ID #: FL000169326

62-730.186 – Universal Pharmaceutical Waste Standards

Container Management

1. Are containers closed and structurally sound? [62-730.186(7)(a)(1)] Y N
2. Labeled "Universal Waste Pharmaceuticals?" [62-730.186(7)(b)] Y N
3. Labeled with the applicable EPA hazardous waste codes? [62-730.186(7)(b)] Y N
4. Handled in such a way to prevent releases? [62-730.186(7)(a)] Y N
5. Does the handler immediately contain releases of UPW? [62-730.186(10)] Y N

Reverse Distributors

1. Begin determination within 14 to 21 days of receipt. [62-730.186(7)(e)(2)(a)] Y N
2. Complete determination within 21 to 30 days of receipt. [62-730.186(7)(e)(2)(b)] Y N
3. Keep a record of each shipment of returns that clearly demonstrates:
 - a. Date shipment was RECEIVED? [62-730.186(7)(e)(2)(c)] Y N
 - b. Date of DETERMINATION by reverse distributor? [62-730.186(7)(e)(2)(c)] Y N

Accumulation Time Limits

1. Small Quantity Handler (<5,000kg) = up to 1 year Y N
2. Large Quantity Handler (>5,000kg) = up to 6 months Y N
3. Is handler able to demonstrate accumulation time? [62-730.186(8)(d)] Y N
 - a. Is this done by dating the container or individual items? Y N
 - b. Or by maintaining an inventory system? Y N

Training

1. Are employees familiar with proper waste management procedures relevant to their responsibilities (including spill response)? [62-730.186(9)(a)] Y N
2. Are employees trained within three months of hire? [62-730.186(9)(b)] Y N
3. Is training provided annually? [62-730.186(9)(c)] Y N
4. Do training documents include [62-730.186(9)(d)]:
 - a. Employee's name and signature? Y N
 - b. Date of hire/assignment? Y N
 - c. Date and type of training? Y N

HARBORCHASE ASSISTED LIVING

ACEPD: H1241 Class: E

1415 FORT CLARKE BOULEVARD, GAINESVILLE, FL 32606

Employees: 35 Vehicles: 0 Billable Tanks: 0

Contact: KAVIN PAUL - DIRECTOR OF RESIDENT CARE

Inspection Results

4/21/2010 CLG

INITIAL E-SQG FACILITY INSPECTION INDICATES FACILITY CLASS "E" EXEMPT ASSISTED LIVING CENTER WITH LP GAS GENSET.

INSPECTION INDICATES PROPER MANAGEMENT OF REGULATED MATERIALS WITH THE FOLLOWING EXCEPTIONS:

20 - OBTAIN & RETAIN DOCUMENTATION FOR ALL REVERSE DISTRIBUTION / DESTRUCTION OF EXPIRED PHARMACEUTICALS.

FACILITY ON COG POTW WATER & SEWER.

FACILITY HAS (2) MDS. (0) RNS. (7) LPNS. (1) ARPN. (1) PHARMACIST. FACILITY HAS (3) SHIFTS, 7 DAYS A WEEK.

FACILITY HAS 79 ASSISTED LIVING CARE BEDS.

(1) OLYMPIAN LP GAS GENSET.

REVERSE DISTRIBUTION UTILIZED FOR EXPIRED PHARMACEUTICALS VIA SENIOR MEDS. SWITCHING TO GUARDIAN AS (05/2010 FOR REVERSE DISTRIBUTION. CONTROLLED MEDS SEPARATED AND FLUSHED DOWN POTW.

DISPENSARY CABINET DOUBLE LOCKED.

CONTACT GRU WASTE WATER FRED WILLIAMS 334-3400 x 1698 FOR INSPECTION. PROVIDE COPY TO ACEPD.

PROVIDED FDEP PHARMACY HANDBOOK, FDEP LIST OF PHARMACEUTICALS, FDEP PHARAMCEUTICAL WASTE GUIDE, ACEPD PHARMACEUTICAL BMP & POSTER.

FOLLOW UP - 30 DAYS.

Inspection Violations:

Violation Date	Violation	Date Corrected
4/21/2010	20 - HMMC - RECORD KEEPING REQUIREMENTS	



 EFD Inspector



 Facility Representative



Pharmaceutical / Medical Drug Waste

Questionnaire

Facility Name: HarborChase Assisted Living Inspector: Chris Gilbert SIC: 8051
 Address: 1415 Fort Clarke Blvd. Gainesville Date of Survey: 04/21/2010
 Phone: (352) 332-4505 Site Rep: Kavin Paul - Director of Resident Care
 No. of RNs: 0 No. of Physicians: 2 No. of Shifts: 3 No. of Pharmacists: 1

Number of Beds or PTs served: 79 M Y

Are the services of a Reverse Distributor available to this facility? N

If yes, are the services utilized? N

If available, but not used, why not? _____

Who is or should be responsible for the following: Gathering/Collecting drug wastes: Pharmacist
 Storing and Securing drug wastes: Pharmacist Disposing of drug wastes: Pharmacist

Do you know what a R.C.R.A waste is? Y

What types of drug waste disposal services would work best for your facility?:

- Drop off drug waste at a pharmacy
- Other drop off site
- Reverse Distributor
- Vendor pick up at my site
- Mail away service
- Associated hospital's disposal service
- Other idea: Describe - _____

How do you distinguish between Controlled substances and other drugs? Segregated

How are Controlled substances disposed? Disposed down POTW

Are Patients asking questions on how to dispose of unwanted medications? Y

Are you aware of the FDEP / ACEPD suggested disposal options?

Do you keep records to track drug wastes, quantities and where it goes? N

Do you have containers for drug wastes? N

Where are they kept? Return Meds How are they Labeled? Original Containers

What are your recommendations, if any, regarding the proper management of unwanted medications?
None

APPENDIX B

**A Guide on
Hazardous Waste Management
for Florida's**

Pharmacies





Smart **Rx** Disposal



A Prescription for an Environmentally Healthy Florida



**Never dispose of pharmaceuticals
in a biohazard bag**



**Never flush pharmaceuticals
down the toilet**



**Never throw pharmaceuticals
in the trash**

Proper Disposal Includes:

- ✓ Buy back programs
- ✓ Universal pharmaceutical waste disposal

Questions concerning proper disposal of pharmaceuticals?

Call the Alachua County Environmental Protection Department

(352) 264-6800

alachuacountyhazmat.org



Checklist

This checklist will help you prevent the most common hazardous waste violations.

For more detailed information on hazardous waste management requirements, contact the Alachua County Environmental Protection Department at (352) 264-6800.

- Identify types and quantities of hazardous wastes.
- Notify the DEP of your monthly hazardous waste generation and obtain an EPA identification number from the DEP.
- Use proper containers to collect and store wastes.
- Separate waste by classification
- Don't combine hazardous waste with non-hazardous waste.
- Label all containers as universal pharmaceutical waste or non-hazardous waste.
- Include the accumulation start dates on labels.
- Maintain aisle space between containers for inspection.
- Inspect containers weekly for rust, leaks, or damage.
- Keep all records for at least three years.
- Never discharge universal pharmaceutical waste to a drain or septic tank unless you have a permit that allows you to do so.
- Train employees to properly handle hazardous wastes.
- Make sure your transporter and disposal facilities are registered and have EPA identification numbers.
- Make sure your reverse distributor is properly licensed and registered.
- Use manifests for all universal pharmaceutical waste transported for disposal.

2. Implement Best Management Practices (BMPs). (Continued)

Recordkeeping

Inspect containers at least once a week and keep a written log of container inspections.

Keep the following records for at least three years:

Training and inspection records, records of completed inventories / audits regarding the distribution or shipment of prescription drugs, records of laboratory tests, completed land disposal restriction forms

Spills

Keep spill cleanup materials readily accessible including:

- Fire extinguishers
- Safety equipment such as rubber or latex gloves and safety glasses
- Spill cleanup products such as absorbents, rags, towels, brooms, shovels, and dust pans to pick up materials, and containers to hold spill waste.

Observe the safety precautions associated with the material spilled. Stop the source of the spill immediately and clean up the spill right away. Recover the spilled substance while observing safety precautions. Contain the spilled material. Call your local fire and / or police departments if fire or public safety hazards are created.

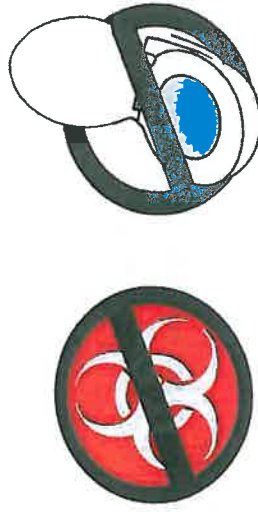
3. Comply with guidelines for transport.

4. Comply with guidelines for managing outdated pharmaceuticals internally and for shipping other pharmaceutical waste generated at your facility.

5. Conduct a complete audit of all pharmaceuticals or wastes being shipped offsite. Keep records of completed audits for at least three years.



for Management of Pharmaceutical Wastes



Alachua County Environmental Protection Department
(352) 264-6800
alachuacountyhazmat.org

How do I manage my pharmaceutical wastes?

1. Establish a pharmacy management plan.

General Pharmaceutical Management

Conduct expired pharmaceutical audits and remove outdated products from inventory. Be sure to inspect all medication storage areas for outdated products. Remember that pharmaceuticals include the samples provided by pharmaceutical representatives or your suppliers. Manage only legitimate and potentially creditable outdated pharmaceuticals through reverse distribution. Manage waste-like items, such as partial vials, IVs, ointments, etc. through a universal waste handler. Designate a clearly marked outdated pharmaceutical quarantine area to accumulate outdated pharmaceuticals or pharmaceutical products that cannot be sold. All pharmaceuticals discarded by the facility must be reviewed for hazardous waste status and a determination must be made as to whether or not the discarded pharmaceuticals are hazardous waste.

- **Never** discharge hazardous waste to a drain that is connected to a publicly owned treatment works facility (POTW) without written permission from the POTW.
- **Never** discharge hazardous waste to a septic tank.
- **Never** mix hazardous pharmaceutical waste with biomedical waste for disposal.
- Train all employees according to your outdated product management program and ensure that employees can identify, reduce, and properly handle wastes.

The pharmacy has two options for managing outdated pharmaceuticals for credit through the return process:

1. Use a reverse distributor
2. Process all returns and waste internally

Universal Pharmaceutical Waste Rule

This rule (UPW) allows large and small quantity handlers of universal pharmaceutical waste to reduce their generator status by managing certain hazardous waste pharmaceuticals as universal wastes.

UPW applies to:

Pharmaceuticals that are no longer viable (pharmaceuticals that are returned without reasonable expectation of sale, returned or delivered without reasonable expectation of credit to a manufacturer, wholesaler, reverse distributor, or any type of waste broker) are discarded. Once a decision has been made to discard a viable pharmaceutical, it becomes non-viable.

UPW does not apply to:

Pharmaceuticals returned with a reasonable expectation of credit through the pharmaceutical reverse distribution system to a manufacturer, wholesaler, or reverse distributor due to an oversupply, expiration of the recommended shelf life, a manufacturer recall, a shipping error, or damage to the exterior packaging. Spill residues, cleanup materials, and media that are contaminated with pharmaceuticals as the result of a spill or discharge. Raw materials or ingredients used in the manufacturing of pharmaceuticals.

NOTE
Hazardous waste pharmaceuticals not managed as universal waste shall be managed in accordance with Chapter 62-730, F.A.C., and shall be disposed of at a permitted hazardous waste treatment, storage, or disposal facility.

2. Implement Best Management Practices (BMPs).

Container Maintenance

Maintain containers in good condition. Never place incompatible wastes, such as wastes that react with each other, in the same container. For instance, do not store acids and bases in the same container. Wastes must be compatible with the container in which they are being stored. For instance, strong acids or bases should NOT be stored in metal containers.

Storage

Separate waste by hazardous waste classification:

- Toxicity (including P and U)
- Ignitability
- Corrosivity
- Reactivity

Inspect pharmaceutical waste storage areas weekly. Be aware of allowable time limits for storage.

Labels

- Label every container with the contents (type of pharmaceutical or waste)
- Label every container as hazardous or non-hazardous waste
- Include any federal waste code numbers that apply
- Include the accumulation start date (the date when waste pharmaceuticals were first stored in the container)
- Include your pharmacy name and address

Continued on back

Front Side



Alachua County Environmental Protection Department

Proper Disposal of Unwanted / Expired Medications

Do your part to protect the environment and your drinking water.

For current list of drop off locations: www.alachuacountyhazwaste.us

Back Side



Alachua County Environmental Protection Department

Proper Disposal of Unwanted / Expired Medications



Do not flush your medications down the drain.

Do not throw your medications in the trash.

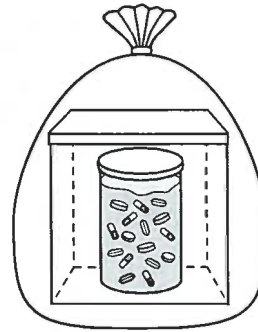
Do your part to protect the environment and your drinking water.

For current list of drop off locations: www.alachuacountyhazwaste.us

Best Management Practices for **Pharmaceutical Disposal**



1 Incineration Is Best For Disposing Of Unused Pharmaceuticals.



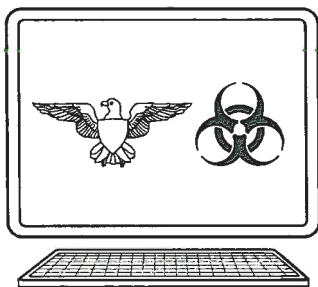
2 Landfill Unused Pharmaceuticals When Incineration Is Not Feasible.



3 Never Flush Pharmaceuticals Down The Toilet Or Drain



4 Maintain Close Inventory Control



5 Always Follow Federal And State Guidelines.



6 Educate Your Clients On Proper Disposal



Abbott
Animal Health
Building a stronger future together

Important Phone Numbers

To download this poster, visit www.avma.org/drugdisposal

Be part of the **SOLUTION** **NOT THE PROBLEM**

Each year, pharmaceutical drugs are disposed of improperly and contaminate our environment, especially the water.



The American Veterinary Medical Association, in conjunction with Abbott Animal Health, has developed a poster, based on the Best Management Practices for Pharmaceutical Disposal, to help educate your staff and clients on the importance of proper drug disposal.

*Display the poster in your clinic or work space.
Let's all do our part to act responsibly and protect our environment.*

Turn the page to find your poster or download it now at
www.avma.org/drugdisposal



Best Management Practices for Pharmaceutical Disposal

Minimize unused pharmaceuticals:

- Maintain close inventory control to decrease expired/unused drugs.
 - Write prescriptions for infrequently used drugs to prevent expirations.
 - Consider assigning responsibility for inventory control and disposal to one or a limited number of staff members.
 - Whenever possible, return drugs nearing expiration to the distributor.

Follow federal and state guidelines for disposal of controlled substances and hazardous waste.

Incineration typically provides the highest level of best management:

- Contract with an appropriate commercial disposal company. Sharps and medical waste disposal companies may be able to provide this service, depending on state regulations. Local human hospitals may have information on incineration companies or services available in the area.
- Use containers provided or recommended by the disposal company. The container should be leak-proof. Use of a leak-proof and tamper-resistant package will help prevent diversion. Add an absorbent substance such as kitty litter for liquids.
- For partially used liquids in syringes, place the needle in a sharps container, evacuate unused liquid pharmaceuticals into a leak-proof container containing an absorbent material such as kitty litter, and dispose of the syringe as appropriate medical waste.

- For drugs in a labeled package, blacken all personal information, place a large X over the product label but maintain the product identification, and place in a tamper-resistant and leak-proof container per incineration company guidelines.
- Label the container "For Incineration Only" to help prevent diversion.
- Maintain the pharmaceutical disposal container in a location away from client access, and consider storing filled containers in a locked storage area.

Consider landfilling if incineration is not feasible in the area:

- For partially used liquids in syringes
 - Squirt the remaining liquid into a container of kitty litter or other absorbent substance. Dispose of the syringe and needle as appropriate medical waste.
 - Seal it and dispose of it in a leak-proof bag.
- Blacken all personal information and place a large X over the product label but maintain product identification.
- Segregate from other types of waste and keep sealed in a leak-proof container.
- Use three layers of packaging to ensure the container does not leak.

Other important tips:

- Controlled substances and hazardous wastes (including chemotherapeutic agents

and epinephrine) are handled differently from non-hazardous waste, and must be disposed of in accordance with federal and state laws. The services of a commercial company may be needed to comply with those laws.

- Never flush pharmaceuticals into the toilet or squirt down the sink.
- Never burn pharmaceutical waste unless authorized by federal and state regulations in an approved incinerator.
- Train all clinic employees on proper disposal of hazardous and non-hazardous waste.

Client education strategies:

- Educate clients on proper disposal – inform clients that flushing unused pharmaceuticals is never appropriate.
- Be aware of return-for-disposal (take-back) programs in your area and encourage clients to participate.
- Dispense only the necessary quantity for appropriate treatment. Use refills rather than dispensing large quantities of a medication.

Be certain to check state and county laws and regulations for specific disposal requirements.

For questions or additional information please visit www.avma.org.



Florida Department Of Environmental Protection

LIST OF PHARMACEUTICALS THAT ARE POTENTIALLY HAZARDOUS WASTES WHEN DISCARDED

Businesses that generate waste, including pharmaceutical waste, are required to determine whether their waste is regulated as hazardous waste prior to disposal. Potential hazardous waste pharmaceuticals include prescription drugs, chemotherapy agents, controlled substances or over the counter items that are either expired, damaged or otherwise not usable for their intended purpose. A hazardous waste determination may be done using generator knowledge based on chemical constituents (ingredients), the process that generates the waste or by performing laboratory analysis of the waste.

THE ATTACHED LIST CONTAINS PRODUCTS THAT MAY OR MAY NOT BE HAZARDOUS WASTE WHEN DISCARDED AND IS OFFERED ONLY AS A STARTING POINT TO HELP BUSINESSES GENERATING PHARMACEUTICAL WASTE. IT IS THE RESPONSIBILITY OF THE GENERATOR OF THE WASTE TO MAKE A FINAL DETERMINATION.

The list provides the names of pharmaceuticals, commercial chemical products, formulations and constituents in products that could result in their being hazardous waste when discarded, with corresponding potential waste codes. Some items are included on the list because ignitable, corrosive, reactive or toxic properties might make them hazardous waste when discarded. The fact that a pharmaceutical, commercial chemical product, formulation or chemical ingredient is not included on this list does not imply that the material is not a hazardous waste when discarded.

This list is subject to change without notice. If you have any questions, please contact the Hazardous Waste Regulation Section, at (850) 245-8707.

PHARMACEUTICAL	EPA Waste Code
Azirino[2',3':,3,4]pyrrolo[1,2-a]indole-4,7-dione,6-amine-8-[[[(aminocarbonyl)oxy]methyl]-1,1a,2,8a,8b-hexahydro-8a-methoxy-5--methyl-,[1aS-(1aalpha,8beta,8aalpha,8balpha)] (Chemotherapy drug)	U010
2H-1,3,2-Oxazaphosphorin-2-amine,N,N-bis(2-chloroethyl)tetrahydro-,2-oxide (chemotherapy drug)	U058
1-methyl-2-(3-pyridyl)pyrrolidine (nicotine)	P075
3-(1-methyl-2-pyrrolidyl) pyridine (nicotine)	P075
4% Citanest w/Epinephrine - only if Epinephrine the sole active ingredient (Dental)	P042
A/T/S (92% alcohol)	D001
Absolute Alcohol & Dehydrated, P.F.	D001
Acetic Acid	D002
Acetone - nail polish remover and solvent	U002
Acetophenetidin (veterinary analgesic)	U187
Actinomycin D solution in Methanol (non-listed carcinogen)	D001
Adrenalin	P042
Aerozoin (44% alcohol)	D001
Alkeran - Tablet form (chemotherapy drug)	U150
Ammonia Aromatic (also vaporole brand)	D001
Amyl Nitrite (oxidizer)	D001
Amyl Nitrite (oxidizer)	D001
Amyl Nitrite (vaporole brand)	D001
Ana-Kit (anaphalaxis emergency kit)	P042
Anbesol (>24% alcohol)	D001
Argyrol S.S. (Silver protein)	D011
Arzol Silver Nitrate	D011
Arzol Silver Nitrate (oxidixer)	D001
B-5 Fixative Solution (used in making bone marrow slides)	D009
(Beta-pyridyl-alpha-N-methylpyrrolidine (nicotine)	P075
Barium Hydroxide crystals (veterinary)	D005
Barium Sulfate suspension (veterinary)	D005
Belustin	U150
Benzoin (non-aerosol spray and compound 74-80% alcohol)	D001
Beta-Val (lotion 47% alcohol)	D001
Beuthanasia - D (veterinary euthanasia solution)	D001
BiCNU (chemotherapy drug)	D001
Brevibloc (>24% alcohol)	D001
Bupivacaine (only if Epinephrine the sole active ingredient)	P042
Caladryl (aerosol) 85% alcohol	D001
Carmustine (chemotherapy drug)	D001
Castellani Paint (Resorcinol, Phenol Acetone 4% alcohol 10%)	D001
Chlomerodrin (3-chloromercuri-2 methoxypropyl urea) radiopharmaceutical used for diagnosing kidney tumors	D009?
Chloral/chloral hydrate DEA CONTROLLED	U034
Chlorambucil (chemotherapy drug)	U035
Chlornaphazin (chemotherapy drug)	U026
Chloroform	D022
Chloroform	U044
Chromagen	D007
Chromium (trace metal-fliptop)	D007
Clay-Park (wart improved flexible Collodion - Ether)	D001
Cleocin T (topical 50% alcohol)	D001
Clinitest (foil pak)	D001

Coal Tar Solution (flammable liquid)	D001
Collodion (also flexible, U.S.P.)	D001
Compound Benzoin Tincture	D001
Compound W	D001
Coumadin	P001
Coumadin	U248
Cresylate (M-Cresyl Acetate 25%, Isopropanol 25%)	D001
Cyanide Antidote (If entire kit contains Amyl Nitrate)	D001
Cyclophosphamide (chemotherapy drug)	U058
Cytoxan (chemotherapy drug)	U058
Cytoxan lyophilized/VHA Plus (chemotherapy drug)	U058
Daunomycin (chemotherapy drug)	U059
Decaspray (Dexamethasone, alcohol 59%)	D001
Dental antiseptic rinse	D001
Dental breath deodorant	D001
Dental amalgam (contains Silver, Mercury, Tin, Copper, Indium, and Zinc)	D009/D011
Deponit	P081
Dermatological solution - ph 1.8 - 2.8 (veterinary)	D002
Dichlorobenzene (moth repellent and deodorizer blocks)	U071
Dicumarol	P001
Dicumarol	U248
Diethylstilbestrol (chemotherapy drug)	U089
Dip-A-Way (veterinary use, contains Merbromin)	D009
Duranest (Endocaine, w/Epinephrine as sole active ingr.)	P042
Ear lotions (veterinary)	D001
Emgel (topical 77% alcohol)	D001
Enemas and some colorings	D005
Epifrin	P042
Epinal	P042
Eppy/N (oph.)	P042
Erycette (66% alcohol)	D001
Eryderm (77% alcohol)	D001
Erygel (topical 92% alcohol)	D001
Erymax (topical 66% alcohol)	D001
Erythromycin Solution (topical 66% alcohol)	D001
Eserine (trade name for physostigmine)	P204
Eserine salicylate (trade name for physostigmine salicylate)	P188
Ethyl Chloride (fine spray)	D001
Ethyl Ether	U117
Ethyl Rubbing Alcohol	D001
Ethylene oxide (sterilizing gas)	U115
Etoposide (chemotherapy drug)	D001
Eugenol U.S.P. (dental)	D001
Exsel (shampoo)	U205
Fixation Solution (veterinary)	U122
Flea and tick spray (veterinary)	D001
Flea, lice, and tick spray (veterinary) - only if Pyridine the sole active ingredient	D001/P075
Fluogen - thimerasol preserved vaccine	D009
Fluorescein Sodium Ophthalmic strips (veterinary)	D009
Fluori-methane (If it contains Dichlorodifluoromethane/U075 or Trichloromonofluoromethane/U121 as active ingredients)	U075/U121

Fluzone (Thimerosal preserved vaccine)	D009
Formaldehyde	U122
Formalyde - 10 Spray (contains 10% Formaldehyde)	U122
Formo Cresol (dental)	D001/D026
Freezone (corn remover - flexible Collodion)	D001
Fungi-Nail (50% alcohol)	D001
Glyceryl Trinitrate	P081
G-Well (shampoo)	U129
Green Soap Tincture	D001
Habitrol	P075
Hair grooming sprays (veterinary)	D001
Hematoxalyn Stain (contains Mercuric Oxide)	D009
Hematin (staining solution, contains Mercuric Oxide)	D009
Hurricane (w/ Benzocaine-20%, CHE - spray flammable)	D001
Idarubicin/Idamycin (chemotherapy drug)	U059
Instrument lubricant (veterinary)	D005
Insulin (some containing Cresol)	D024
Kwell (Lindane shampoo)	U129
Leptospirosis Bacterins Vaccines (cattle, swine & dogs - contains Thimerosal)	D009
Leukeran (chemotherapy drug)	U035
Lindane (lice shampoo and spray)	U129
Listerine Antiseptic (original formula when >24% alcohol)	D001
Medical Tubes (Maloney & Hurst Bougies - 45 gm to 1 kg mercury. Miller-Abbot & Cantor tubes. Used in surgical units, ICU & CCU).	D009
m-Dihydroxybenzene	U201
m-hydroxyphenol	U201
M.T.E. (4, M.D.)	D007
M.T.E. (4, M.D.)	D010
M.T.E. (5, S.D.)	D007
M.T.E. (5, S.D.)	D010
Melphalan (chemotherapy drug)	U150
Merbromin	D009
Mercuric oxide, yellow (oph.)	D009
Mercurochrome	D007
Mercurochrome	D009
Mercury	U151
Mercury ammoniated	D009
Mercury containing devices -thermostats, motion activated lights (sneakers & jewelry), thermometers, mildicides (paint additive), manometers	D009
Mercury (acetato-O)phenyl	P092
Mercury diuretics	D009
Mercury fulminate (R,T)	P065
Methapyrilene (antihistamine and a carcinogen)	U155
Merthiolate	D009
Methyl Alcohol (Methanol)	D001
Minitran	P081
Mitomycin C (chemotherapy drug)	U010
Multiple Trace Element (S.D.V., P; S.D.V., W)	D007
Multiple Trace Element (S.D.V., P; S.D.V., W)	D010
Mutamycin/Mutamycin VHA Plus (chemotherapy drug)	U010
Myleran	U150
Nail Polish remover (flammable solvent mixture)	D001
Naphthalene (mothballs)	U165

Neosar	U058
New-Skin (flexible collodion)	D001
Nicoderm (transdermal system)	P075
Nicorette	P075
Nicotine & salts (antismoking gum, tablets/capsules, and patches)	P075
Nicotrol (transdermal system)	P075
Nitro-Bid Ointment	P081
Nitro-Dur	P081
Nitro-Dur (transdermal system)	P081
Nitro-Par (T.D.)	P081
Nitrodisc	P081
Nitrogard (Buccal)	P081
Nitroglycerin (tablets, capsules, aerosols, creams, injectables)	P081
Nitrek (trade name)	P081
Nitrong (2% in 15, 30 & 60 ml ointments)	P081
Nitrotime (trade name)	P081
Nitropress (Nitroprussic acid, Nipride, Nitroprusside.) May contain cyanide. Administered in IV sol. for high blood pressure.	D003?
Nitrostat	P081
Nyquil (>24% alcohol)	D001
Oxalic Acid Crystals	D002
Oxipor VHC	D001
Pacitaxel (chemotherapy drug)	D001
Para-dichlorobenzene (moth repellent)	U071
Paraldehyde (Sedative DEA CONTROLLED)	U182
Paral (Paraldehyde 30 ml vials) DEA CONTROLLED	U182
Phenacetin	U187
Phenylmercury acetate	P092
Phenylmercuric acetate in ophthalmic solution	D009
Phenylmercuric nitrate in ophthalmic solution	D009
Phosphocol P32 injection (Chromic Phosphate 7 mil/ml)	D007
Photographic waste	D011
Physostigmine - treat glaucoma (ophthalmic solution) & alzheimers	P204
Physostigmine salicylate	P188
Podocon-25 (Benzoin Tincture - flammable)	D001
Podofin (flammable)	D001
Potassium Permanganate	D001
Prostep	P075
Racopinéphrine (inhalent)	P042
Racord	P042
Reserpine (white scored)	U200
Reserpine (antihypertensive)	U200
Resorcinol	U201
Rubomycin	U059
RX-ICK Control (veterinary use, contains Merbromin)	D009
Saccharine (only listed if not mixed with a second sweetner, ex. dextrose)	U202
Sal-Plant Gel (flexible Collodion)	D001
Salicylic Acid	D002
S.D. Alcohol 40-A & 40-B (specially dewatered)	D001
Selenium (w/yeast)	D010
Selenium sulfide (ointment and shampoos)	U205
Selepen (M.D. & S.D.)	D010
Selsun	U205

Sensorcaine MD or SD w/ Epinephrine - (only if Epinephrine the sole active ingredient)	P042
Sensorcaine w/ Epinephrine - (only if Epinephrine the sole active ingredient)	P042
Silvadene	D011
Silver Nitrate (ophth) (oxidizer)	D001, D011
Silver nitrate (oxidizer, toxic)	D011, D001
Silver Nitrate applicator sticks (oxidizer)	D001,D011
Silver Sulfadiazine (tube) a/k/a SSD AF	D011
Slide stain solutions	D001
Sphingomanometers	D009
Sterilized Sutures (veterinary)	D001/D007
Stilphostrol (injection and tablets)	U089
Streptozotocin (chemotherapy drug)	U206
Strychnine	P108
Tannic Acid (U.S.P.) If in powder form	D002
Taxol (chemotherapy drug)	D001
Teosulfan	U150
Tetrahyronicotyryne (nicotine)	P075
Texacort Lotion (33% alcohol)	D001
Thallium Chloride (Thallium 210) - radionuclide used in stress tests. Decays to mercury. Also contains 0.25% lead as impurity at time of production (1ml dose).	U216
Thermometers (mercury only)	D009
Thiomersal (50% mercury)	D009
Tin-Ben, Tin-Co-Ben, and Tincture of Benzoin (>24% alcohol)	D001
Tincture of Belladonna (atropine, 60% alcohol solution)	D001
Toluidine Blue (o-toluidine)	U328
Topicycline (>24% alcohol)	D001
Tornalate (Bitolterol Mesylate, bronkial asmatha dilator, > 24% alcohol)	D001
Transderm-Nitro	P081
Transdermal-Nitroglycerin	P081
Tridil (includes maintenance and starter packs)	P081
Trinitroglycerin	P081
Uracil Mustard (chemotherapy drug)	U237
Uramustine	U237
Vaccines containing Thiomersal (human and animal)	D009
Valu-Rite (Selenium, Nat)	D010
Warfarin, < 0.3% (anticoagulant and rat poison)	U248
Warfarin, > 0.3% (anticoagulant and rat poison)	P001
Vepesid (chemotherapy drug)	D001
Wound Control (veterinary, contains merbromin)	D009