

# Safe Medication & Needle Disposal

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## DISCLAIMER & MOTIVATION

- › Opinions expressed in this presentation represent those of the individual presenter (who fancies herself as an environmental activist) and are not necessarily those of her current or former employers
- › Safe treatment of medical waste is a continually evolving process
- › Pharmacy Technicians can play a key role in informing patients of options available in their communities

# HISTORY

- › In 1980s medical waste washing up on East coast beaches prompted Congress to enact the Medical Waste Tracking Act (MWTa) of 1988
- › As a result the EPA developed regulations for management of medical waste in NY, NJ, RI, and Puerto Rico
- › This regulation expired on June 21, 1991
- › Since then, states now develop regulations for medical waste largely following guidance developed by the MWTa
- › This presentation has been developed based on the experience of a current California pharmacy technician (and former toxicologist working for the California EPA)

# Pharmacies Often Give Wrong Information About How to Dispose of Unused Medicine

- › 900 California Pharmacies (RPh and PTs) were asked how to dispose of unused medicines by survey scientists posing as customers
  - Sulfamethoxazole-trimethoprim (antibiotic)
  - Liquid Hycet (opioid)
- › For Antibiotic: **57%** gave a wrong or incomplete answer
- › For Opioid: **77%** gave a wrong or incomplete answer
- › Reference: Selekman et al. (2020) Ann Int Med 172:632

# Safe Disposal of Pharmaceuticals

An estimated 10 to 33% of all prescribed medications are NOT consumed.

What happens to unused medications?

# Safe Disposal of Pharmaceuticals

## The PROBLEMS

### DRUG DIVERSION

Medications put in trash are not secure and can be accessed by anyone

Medications in cabinets can be accessed by children and others leading to increased risk of poisoning, drug abuse, and overdose

### ENVIRONMENTAL CONTAMINATION

Medications in landfill will leach out and contaminate water supplies

Medications flushed down the toilet or drain will pollute local water supplies

# Disposal of Medicines

The Choices *(in order of preferability)*

1. Permanent collection sites
2. Periodic take-back events
3. Home disposal

# How to Find Permanent Collection Sites

Google maps

DEA site

\*\*\*\*Your own research via:

Internet searches

Phone calls

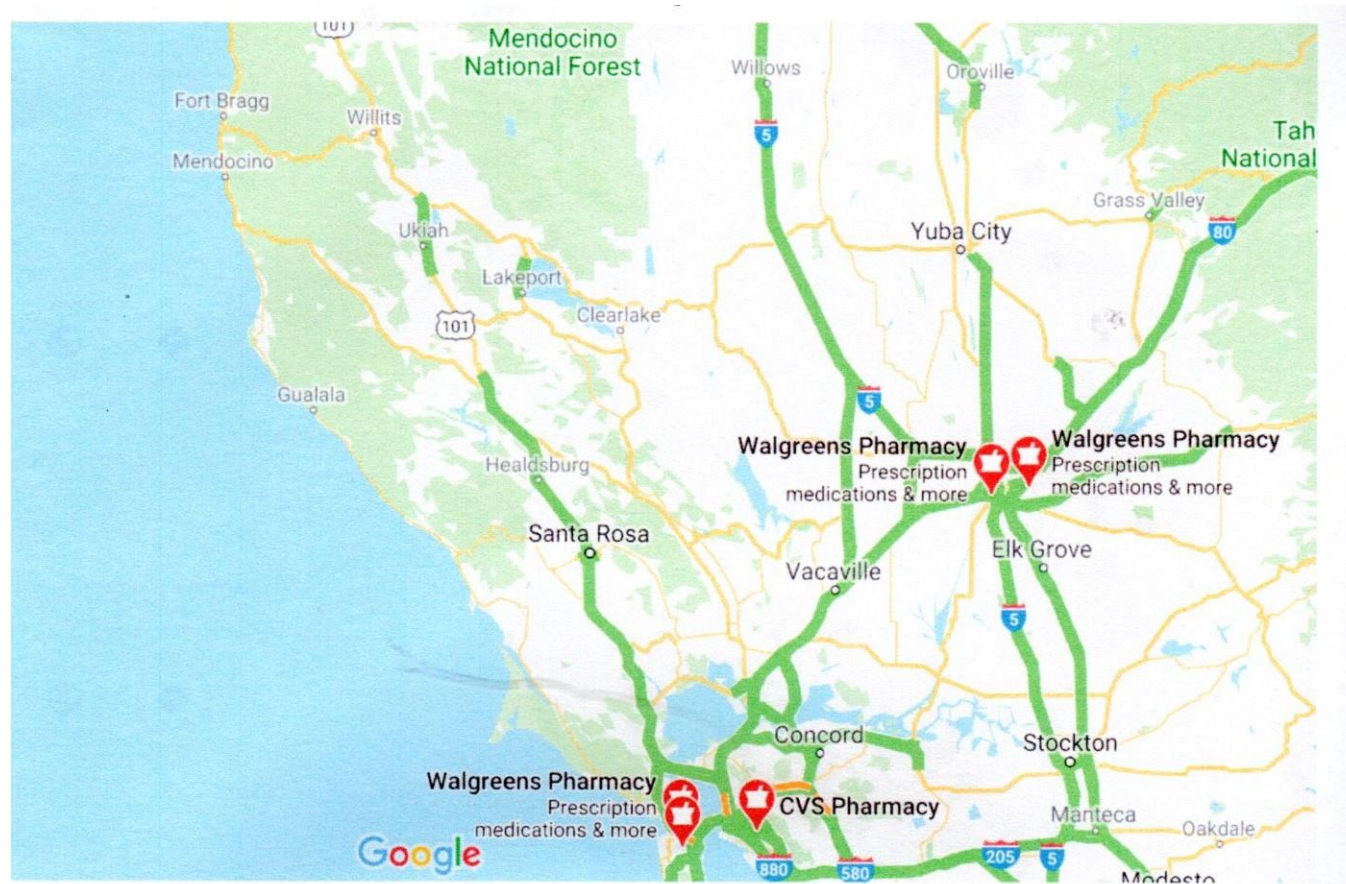
Networking



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# Google Maps

*Type* “drug disposal near me”



# DEA Drug Disposal

*On line site to find locations*

<https://apps2.dea diversion.usdoj.gov/pubdispsearch>

Enter: Zip code or City and State

Enter search radius: 5, 10, 20 or 50  
miles

Enter: SEARCH

## Controlled Substance Public Disposal Locations - Search Utility

### Public Controlled Substance Disposal Locations:

Bus Name	Addr 1	Addr 2	City, State Zip	Dist	Map
MEDICAL PARTNERS OF DAVIS	CLINIC PHARMACY	2660 W. COVELL BLVD	DAVIS, CA 95616	2 miles	<a href="#">Map</a>
KAISER FOUNDATION HLTH PLAN	KFHP PHARMACY #621	1955 COWELL BLVD	DAVIS, CA 95618	6 miles	<a href="#">Map</a>
SAFEWAY INC	1235 STRATFORD AVENUE		DIXON, CA 95620	10 miles	<a href="#">Map</a>
CORNER DRUG COMPANY	602 MAIN ST		WOODLAND, CA 95695	11 miles	<a href="#">Map</a>
WOODLAND PHARMACY	825 EAST ST STE 107		WOODLAND, CA 95776	10 miles	<a href="#">Map</a>

**This DEA site, while much better than a Google Maps search at finding nearby sites, still missed at least 3 Public Disposal Locations**

### Missed Locations

Sutter Hospital	Davis, CA
Yolo County Landfill	Davis, CA
Davis Police Department	Davis, CA

# Your Own Local Research

Some retail pharmacies

Hospital pharmacies

Clinic/Assisted living pharmacies

Local waste management

Law enforcements agencies

Mail back collectors



## Yolo County Household Hazardous Waste Program

**Rx** **FREE SHARPS AND  
MEDICINE DISPOSAL**

**Every Friday and Saturday**

**7:30 AM—3:30 PM**

Yolo County Central Landfill

44090 County Road 28H

Woodland (530) 666-8856



Free senior/disabled  
pick-up available



# MEDS in the BIN. We all WIN!

## › ACCEPTED

- Non-Controlled medications
- OTC pills and liquids
- Medication ointments and lotions
- Pet medications

## › CONDITIONALLY ACCEPTED (Often only at police departments)

- Controlled substances (i.e., codeine, morphine, oxycodone, Norco)



## LIMITATIONS

Only offered 1 or 2 times a year

Not offered in Spring 2020 because of COVID

Poorly advertised/easy to miss the date

# Steps for safe disposal of pharmaceuticals

1. Check if acceptable (Local variations)
2. Prepare for drop off
  - Protect your privacy: Remove labels, scratch off information
  - Place pills in clear zipper bag
  - Keep liquids & creams in original tightly sealed containers
3. Place in kiosk/disposal bin at:
  - Some pharmacies
  - Hospitals and clinics
  - Landfill
  - Police departments



 I need to get rid of this medication.

**FDA U.S. FOOD & DRUG ADMINISTRATION**

# Drug Disposal Options

Do you have medicine you want to get rid of?

Do you have a drug take-back option readily available?

Check the [DEA website](#), as well as your local drugstore and police station for possible options.

**NO**

**YES**

Is it on the [FDA flush list](#)?

**NO**

Follow the [FDA instructions for disposing of medicine in the household trash](#).

**YES**

[Immediately flush your medicine in the toilet.](#) Scratch out all personal info on the bottle and recycle/throw it away.

Take your medicine to a drug take-back location.

Do this promptly for [FDA flush list](#) drugs!

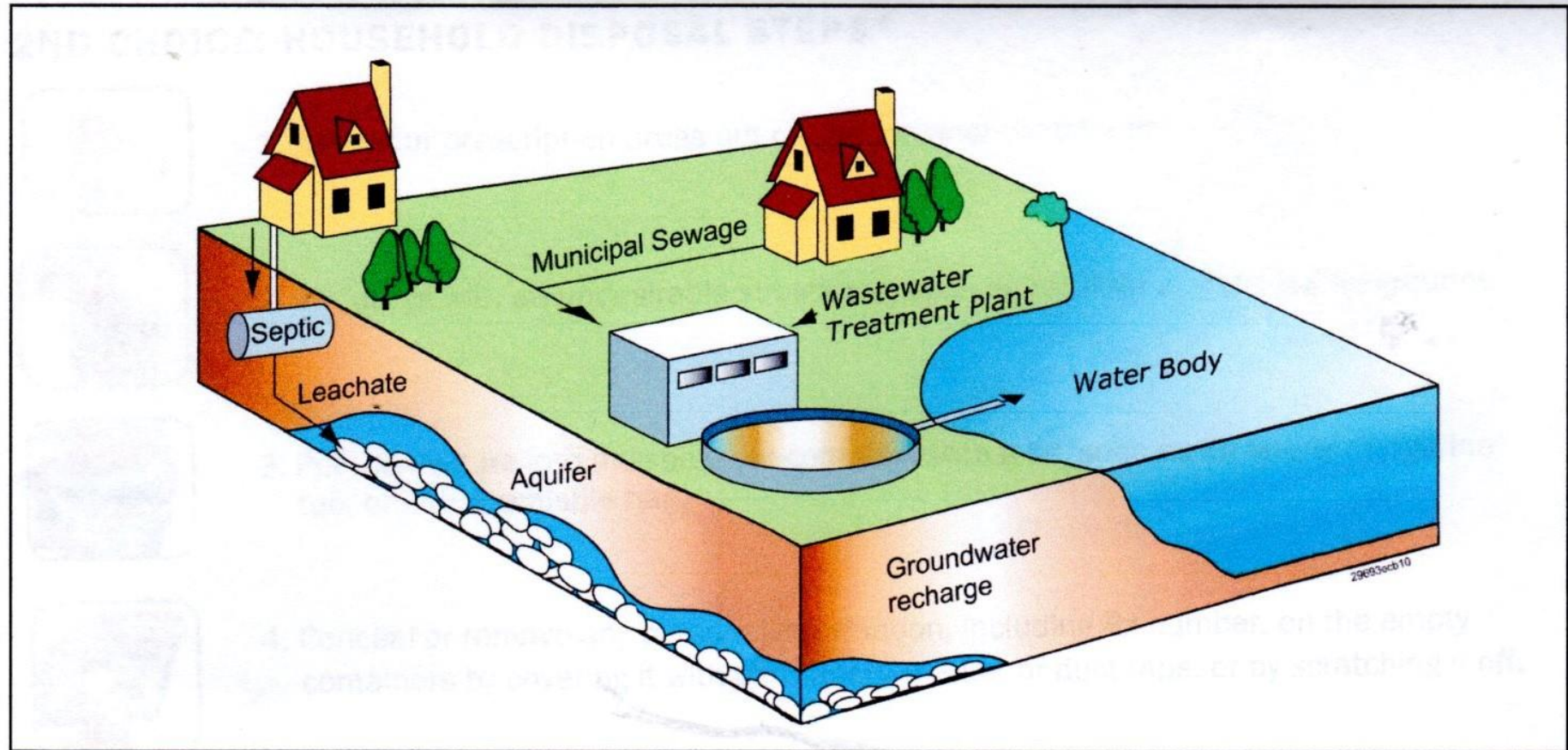


[www.fda.gov](#)

Active Ingredient	Found in Brand Names
Benzhydrocodone /Acetaminophen	<a href="#">Apadaz</a>
Buprenorphine	<a href="#">Belbuca</a> , <a href="#">Bunavail</a> , <a href="#">Butrans</a> , <a href="#">Suboxone</a> , <a href="#">Subutex</a> , <a href="#">Zubsolv</a>
Fentanyl	<a href="#">Abstral</a> , <a href="#">Actiq</a> , <a href="#">Duragesic</a> , <a href="#">Fentora</a> , <a href="#">Onsolis</a>
Diazepam	<a href="#">Diastat</a> / <a href="#">Diastat AcuDial rectal gel</a>
Hydrocodone	Anexsia, <a href="#">Hysingla ER</a> , Lortab, <a href="#">Norco</a> , Reprexain, Vicodin, <a href="#">Vicoprofen</a> , <a href="#">Zohydro ER</a>
Hydromorphone	<a href="#">Dilaudid</a> , <a href="#">Exalgo</a>
Meperidine	<a href="#">Demerol</a>
Methadone	<a href="#">Dolophine</a> , <a href="#">Methadose</a>
Methylphenidate	<a href="#">Daytrana transdermal patch system</a>
Morphine	<a href="#">Arymo ER</a> , <a href="#">Embeda</a> , <a href="#">Kadian</a> , <a href="#">Morphabond ER</a> , <a href="#">MS Contin</a> , <a href="#">Avinza</a>
Oxycodone	<a href="#">Combunox</a> , <a href="#">Oxaydo</a> (formerly Oxecta), <a href="#">OxyContin</a> , <a href="#">Percocet</a> , <a href="#">Percodan</a> , Roxicet, <a href="#">Roxicodone</a> , <a href="#">Roxybond</a> , <a href="#">Targiniq ER</a> , <a href="#">Xartemis XR</a> , <a href="#">Xtampza ER</a>
Oxymorphone	<a href="#">Opana</a> , Opana ER
Tapentadol	<a href="#">Nucynta</a> , <a href="#">Nucynta ER</a>
Sodium Oxybate	<a href="#">Xyrem oral solution</a>



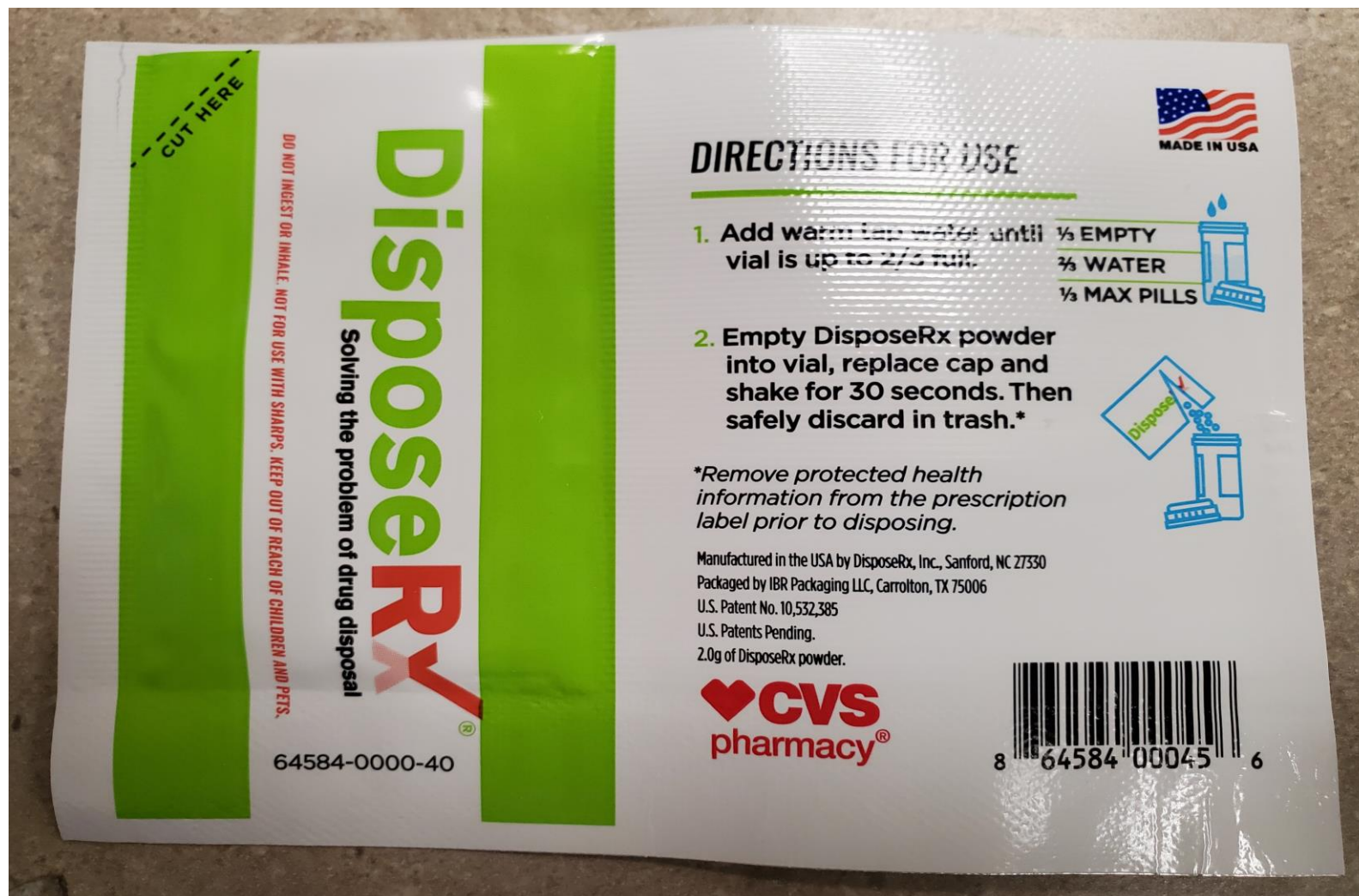
# How Medicines End Up in Drinking Water



## Alternative Home Disposal Methods

- › Mix with coffee grounds or used kitty litter and dispose with household trash to discourage diversion
  - **NOT** recommended because of possible drinking water contamination
- › DisposeRx from Pharmacies
- › MedsAway Packets
- › Deterra Packets
- › NarcX
- › DrugBuster

# Safe Drug Disposal Packet Provided at No Cost in Pharmacies







Safe in-home disposal using commercially available packets containing activated charcoal

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# Which Options Prevent Diversion?

# Which Options Prevent Environmental Contamination?



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Which options do both?

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Hazardous Waste Program**

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# Disposal of Sharps

What are sharps?

Lancets

Hypodermic needles

Pen needles

Intravenous needles

Any device used to penetrate the skin

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# Why is it important?

~25% of needle sticks occur outside of health services

This means ~150,000 to 200,000 people are affected each year

Cost is ~\$38 million dollars per year

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# Who is at risk for injury?

Health care workers

Hikers, runners, walkers, & beach goers

Children

Pets

Janitors and maids

Groundskeepers

Waste management workers

Hand sorters of recyclable material

**EVERYONE!!!!**

# Consequences of an accidental needle stick

Danger of contracting HIV/AIDS or hepatitis or other infections

Months of expensive preventive drugs with side effects

Expensive periodic tests





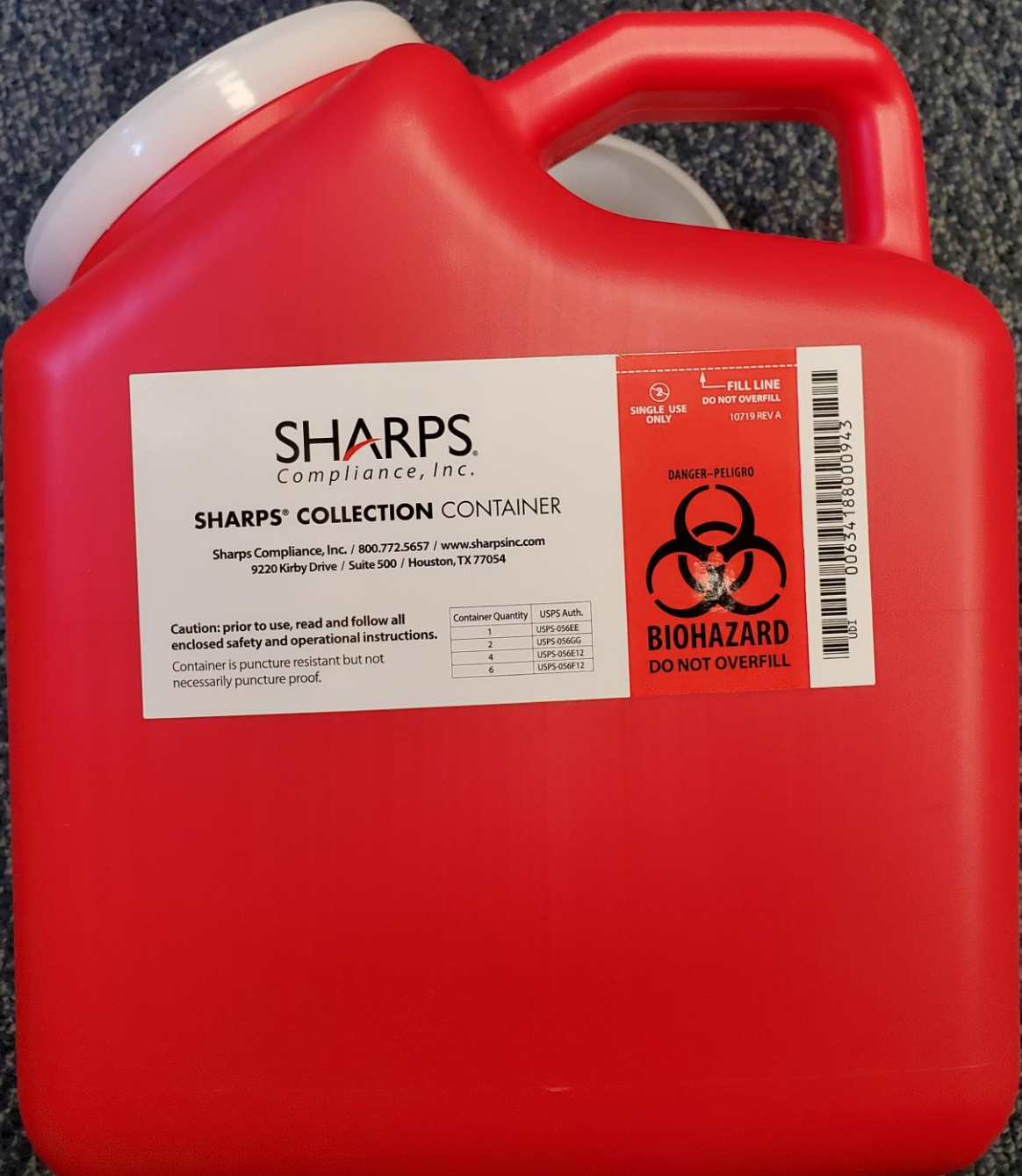
# Disposal of Sharps

› Purchased Red Disposal Kit

*or*

› Homemade Disposal Kit





**SHARPS.**  
Compliance, Inc.

**SHARPS® COLLECTION CONTAINER**

Sharps Compliance, Inc. / 800.772.5657 / [www.sharpsinc.com](http://www.sharpsinc.com)  
9220 Kirby Drive / Suite 500 / Houston, TX 77054

Caution: prior to use, read and follow all enclosed safety and operational instructions.

Container is puncture resistant but not necessarily puncture proof.

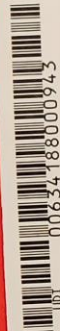
Container Quantity	USPS Auth.
1	USPS-056EE
2	USPS-056GG
4	USPS-056E12
6	USPS-056F12

 **SINGLE USE ONLY**  
**FILL LINE**  
**DO NOT OVERFILL**  
10719 REV A

DANGER-PELIGRO



**BIOHAZARD**  
**DO NOT OVERFILL**







# Homemade Sharps Disposal

1. Rigid opaque plastic container  
Bleach or detergent bottle
2. Write “SHARPS WASTE” on outside
3. Tape lid shut
4. Take to approved disposal location  
Waste removal site or landfill







Bleach container transformed for sharps waste disposal by:

Clearly labeling as  
**SHARPS WASTE**

Taping top shut

# What can YOU do?

Become informed about what is available in your community

Collect/prepare brochures for patient use

Collect/prepare refrigerator magnets for patient use

Include safe disposal information in pharmacy technician courses and in pharmacy training

# Thank you!!!!

- › Pharmacy Technicians working together can help to prevent drug diversion and environmental contamination
- › Explore the options available in your community
- › Be an activist to inform the public and suggest improvements and alternatives
- › If you would like to see examples of summary brochures made available in my small college community or if you have any questions, send me an email

[linhall1943@gmail.com](mailto:linhall1943@gmail.com)