



Hazardous Waste at Home

Household Hazardous Waste (HHW) and Pharmaceuticals

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Agenda

- **Household Waste:** what is it, how to identify them, types of waste
- **Dangers of Improper Disposal:** mercury, pharmaceutical, cleaners, pesticides, paints, e-waste
- **Benefits of Proper Disposal**
- **Alternatives to HHW**
- **HHW Collection Sites**



Areas of Concern

- There are 30 areas of concern in the US Great Lakes
- These are places where chemical contamination of sediments from the lakes has seriously endangered the quality of life for people and wildlife
- There are 6 AOCs in NYS
 - Buffalo River
 - Eighteen Mile Creek
 - Niagara River
 - Oswego River/Harbor
 - Rochester Embayment
 - St. Lawrence River at Massena



"Safer Chemicals Healthy Families." *Failing the Great Lakes*. (2009)



Beneficial Use Impairments

Buffalo Area	Syracuse Area	Rochester Area	Massena Area
Buffalo River	Oswego River/Harbor	Rochester Embayment	St. Lawrence River
1.Restrictions on fish and wildlife consumption 2.Fish tumors or other deformities 3.Degradation of aesthetics 4.Degradation of benthos 5.Restriction on dredging activities 6.Loss of fish and wildlife habitat	1.Restrictions on fish and wildlife consumption 2.Degradation of fish and wildlife populations 3.Loss of fish and wildlife habitat	1.Restrictions on fish and wildlife consumption 2.Eutrophication or undesirable algae 3.Restrictions on drinking water consumption, or taste and odor 4.Degradation of fish and wildlife populations 5.Beach closings 6.Degradation of aesthetics 7.Bird or animal deformities or reproduction problems 8.Added costs to agriculture or industry 9.Degradation of benthos 10.Degradation of phytoplankton and zooplankton populations 11.Restriction on dredging activities 12.Loss of fish and wildlife habitat	1.Restrictions on fish and wildlife consumption 2.Loss of fish and wildlife habitat
EighteenMile Creek			
1.Restrictions on fish and wildlife consumption 2.Degradation of benthos 3.Restriction on dredging activities			
Niagara River			
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US EPA, Great Lakes Areas of Concern, <http://www.epa.gov/glnpo/aoc/>

What is **H**ousehold **H**azardous **W**aste?

Leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients are considered to be household hazardous waste (HHW)

Household hazardous wastes are **common** household items that contain toxic chemicals and should be handled and disposed of properly



What is **H**ousehold **H**azardous **W**aste?

Products that contain corrosive, toxic, ignitable, or reactive ingredients



REACTIVE

may cause
violent
chemical
reaction



CORROSIVE

causes
chemical
burns on
contact



TOXIC

can be
harmful to
human
health



FLAMMABLE

potential to
ignite



EXPLOSIVE

potential to
explode

Other label words to look for:

- "**Danger**" or "**poison**": hazardous or highly toxic products
- "**Caution**" and "**Warning**": product is less hazardous but still presents potential health hazards



Examples of Household Hazardous Wastes

Paint & Paint-Related Products	Lawn/Garden Care Products	Beauty Products & Medicines
Turpentine paint stripper Oil-based paint Rust remover Paint thinner Varnish	Pesticide/insecticide Weed killer Snail killer Bug spray Fungicide Herbicide Fertilizer	Products in aerosol cans Alcohol-based lotions Nail polish remover Isopropyl alcohol Expired medicine Hair relaxers Depilatories Nail polish
Household Cleaners	Automotive Fluids & Batteries	Miscellaneous
Ammonia-based cleaners Tub & tile cleaners Toilet bowl cleaners Floor care products Aluminum cleaners Window cleaners Aerosol cleaners Copper cleaners Furniture polish Metal polishes Oven cleaners Drain cleaners	Windshield washer solution Auto body repair products Metal polish with solvent Fuel oil and other oils Lead acid batteries Transmission fluid Brake fluid Antifreeze Diesel fuel Motor oil Kerosene Gasoline Car wax	Cell phone rechargeable batteries Swimming pool chemicals Photographic chemicals Mercury thermometers Dry cleaning solvents Mercury vapor lights Mercury batteries Fluorescent lights Fiberglass epoxy Lighter fluid Shoe polish Moth balls Glue

"Household Hazardous Waste Fact Sheets." Los Angeles County Department of Public Works.



Benefits of Proper Disposal

1. **PROTECT** children and pets from direct contact.
2. **PREVENT** unexpected reactions and exposures that may harm solid waste handlers and firefighters.
3. **MAINTAIN** healthy soil bacteria to increase plant diversity and overall plant health.
4. **CONSERVE** freshwater systems and the health of fish and aquatic insects.
5. **PROTECT** food supplies including crops and forest resources (fish, deer, etc.).
6. **PREVENT** pollution of our groundwater.
7. **PROTECT** our bodies from dangerous levels of harmful, bioaccumulating poisons.

Weber, Laura. "Tribal Guide For Managing Household Hazardous Wastes." July 2011, http://srmt-nsn.gov/_uploads/site_files/SRMT_HHW_Manual.pdf



Dangers of Improper Disposal

- **Pour on the ground or into storm sewers**
 - Storm sewers drain directly into local streams, lakes, and groundwater
 - Waterways become polluted
- **Pour down the drain**
 - Contaminate septic tanks or wastewater treatment systems



Photo Source: <http://therealestatemango.com/2010/06/04/waterways-harbor-and-marina-is-dirty-with-trash-and-deisel-oil-slicks/>

New York State. Department of Environmental Conservation. *Managing and Disposing of Household Hazardous Waste*; United States. Environmental Protection Agency. *Household Hazardous Waste: Steps to Safe Management*. 1993

Funding provided by the US Environmental Protection Agency Great Lakes Restoration Initiative in the amount of \$104,192 and by the NYS Pollution Prevention Institute through a grant from the NYS Department of Environmental Conservation.



Dangers of Improper Disposal

- **Dispose of in the trash**
 - Potential to cause physical injury to sanitation workers
 - Landfill: liquid waste and rainwater seep through layers of trash turning into leachate
 - Incinerators: emissions can contaminate air and the ash residues (contain heavy metals), present disposal problem.
- **Stored around the house**
 - Presents a hazard to children and pets



Photo Sources

(L): Paul Buckowski / Times Union, <http://www.timesunion.com/default/photo/The-Norlite-hazardous-waste-incinerator-operation-349716.php>

(R): Skip Dickstein/Times Union, <http://www.timesunion.com/default/photo/The-Rapp-Road-landfill-has-served-as-a-regional-550156.php>





Paints & Thinners



Types of Paints:

- *Latex*: least harmful, pre-1992 paint may contain **mercury**
- *Oil-based*: enamel, lacquer, shellac and varnish – contains **solvents**
- *Hobby or artist*: coloring paints may contain **solvents** or **heavy metals**
- *Aerosols*: spray paints contain **solvents and propellants**
- *Leaded Paint*: **banned in 1978**, but houses built before then probably still contain leaded paint

Thinners, Strippers & Other Solvents:

- Halogenated solvents
 - most damaging
 - Found in: paint strippers, spot removers & degreasers
- “**Flammable**”: Never use them near ignition sources; work outside when possible
- Never eat, drink or smoke where solvents are being used
 - Fumes can be *absorbed* by food or utensils
- **Alternative**: use water-based products where possible



Paint & Thinner Disposal

Typically collected as HHW

- Oil-based paints, stains, finishes
- Paint strippers
- Paint thinners
- Spray paints
- Kerosene
- Brush cleaner
- Wood preservatives
- Wood stain

Typically disposed in the trash

Water based latex paint

- Remove the canister's lid
- Add kitty litter or saw dust
- Let it air dry
- Place in the trash
- Make sure the lid is off so the sanitation worker can see that it is empty





Indoor Pesticides

Chemicals engineered to **kill** unwanted insects, animals, plants or microorganisms; may be **toxic** to humans as well; many are **not biodegradable**

- Common pesticides in homes
 - Insecticides
 - Rodenticides
 - Disinfectants
- **Alternatives**
 - Houseplant Insecticides: spray plants with luke warm soapy water then rinse well
 - Rodents: use live traps and prevent by eliminating food source and sealing entry holes.
 - Disinfectants: use 1/2 cup borax in a gallon of water
- Source of Contamination include:
 - soil or dust that floats in from outside,
 - stored pesticide containers



80% of most people's exposure to pesticides occurs indoors and measurable levels of up to **a dozen pesticides** have been found in the air inside homes*

*EPA Pesticide Website: <http://www.epa.gov/iag/pesticid.html>; New York State. Department of Environmental Conservation. *Managing and Disposing of Household Hazardous Waste*.



Outdoor Pesticides



- Common Outdoor Pesticides:
 - Fungicides
 - Lawn and garden products such as herbicides or weed killers
 - Swimming pool chemicals, including those that kill algae
 - Repellents that keep deer, raccoons, or rabbits away from your garden.
- Alternatives:
 - Don't overwater: areas should be kept clean & dry
 - Maintain lawn so weeds don't seed
 - Ultraviolet light or Ozone light systems instead of pool chemicals
 - Rodents: build a screen, dig 2 inches down

EPA Pesticide Website: <http://www.epa.gov/iaq/pesticid.html>;

New York State. Department of Environmental Conservation. *Managing and Disposing of Household Hazardous Waste*.



Household Cleaners

In 2008, the American Association of Poison Control Centers reported that *more than half of the 2 million poisoning incidents each year involve children younger than six years old.*

Leading *causes* of poisoning include *cosmetics* such as perfume and nail polish, deodorant and soap, *household cleaning products* and *medications.*

-EPA, March 11, 2010

Would your kids see the difference?
Many chemicals, such as medicines and cleaning products, look like food or other products. You may see the difference, but others in your home might not.
Practice chemical safety to prevent accidental poisonings.



Above: Window Cleaner - Mouthwash - Sports Drink Cleaner - Parmesan Cheese Oven Cleaner - Cooking Spray

Stay safe with chemicals at home:

- ✓ Separate food items from chemicals and other non-foods
- ✓ Store chemicals clearly labeled and in their original containers
- ✓ Check your kitchen, bathroom, pantry, medicine cabinet, garage, and basement
- ✓ Store chemicals out of reach and use child safety locks

If you have questions or would like more information on home environmental health hazards, please email HealthyHome@urmc.rochester.edu or visit: <http://www2.urmc.rochester.edu/healthyhomes.html>
Produced by the University of Rochester Environmental Health Sciences Center, with support from the Monroe County Department of Public Health through a U.S. Department of Housing and Urban Development Lead Hazard Control Grant * November 2011



Household Cleaners

- Many household cleaners contain harmful chemicals and should be disposed of as HHW

Common ingredients in household cleaners

Ammonia	Fatal when swallowed
Ammonium Hydroxide	Corrosive, irritant
Bleach	Potentially fatal if ingested
Chlorine	Number one cause of poisonings in children
Formaldehyde	Highly toxic; known carcinogen
Hydrochloric acid	Corrosive, eye and skin irritant
Perchloroethylene	Damages liver, kidney, nervous system
Phenol	Suspected carcinogen; can be fatal if taken internally
Propylene Glycol	Immunogen; main ingredient in antifreeze
Trichloroethane	Damages liver and kidneys

http://www.state.nj.us/health/eoh/cehsweb/bleach_fs.pdf; <http://www.healthycleaning.com/whycleanhealthy.html>

Aerosol Inhalers & Containers

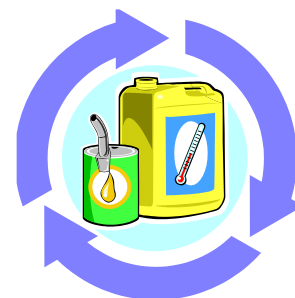
- Empty aerosol inhalers can be either disposed as a solid waste or recycled
 - Most propellants in aerosol inhalers are **ignitable**, making the inhaler a hazardous waste if still pressurized
- Aerosol Containers may **explode** under heat or pressure
 - Spreads the hazardous contents and metal throughout the area
 - The tiny particle size makes hazardous components easier to inhale
- **Alternative to Air Fresher Sprays**
 - Use non-aerosol products, such as pump sprays
 - Set baking soda, white vinegar, or herbal mixtures in an open dish or boil herbs





Automotive Chemicals

- Antifreeze contains ethylene glycol, a **toxic** substance.
 - Ethylene Glycol: affect the central nervous system
 - Children and Pets are highly susceptible to antifreeze poisoning due to it's sweet taste
- Brake Fluids contain propylene glycol, a **toxic** substance
 - Propylene Glycol: may irritate the skin, eyes or lungs
- Motor oil may contain **toxic** metals and organic compounds
- Dispose as Household Hazardous Waste
 - Antifreeze, Brake Fluids and Motor Oil can be recycled
 - Clean, used antifreeze can be used to dilute new antifreeze





Automotive Batteries

- Contain sulfuric acid (can severely burn skin) and lead
- Sulfuric acid lead acid batteries are **recyclable**
- Improper disposal is prohibited by NYS Law

Disposal

- Must be disposed of/recycled at a hazardous waste facility
- Battery retailers are required to take them back for recycling



Retailers & distributors are required to accept two batteries per person per month for free



Household Batteries

- Small “button” batteries may contain mercury, silver or lithium
- Common batteries are usually carbon zinc or alkaline and if manufactured before 1992 may contain mercury
- Rechargeable batteries most often contain cadmium and nickel
- Several types of household batteries are recyclable

Alternative: Utilize rechargeable batteries reduces the number of batteries requiring collection or disposal

Disposal:

- Single use alkaline batteries – AAA, AA, A, C, D – can typically be disposed of in the trash
- Rechargeable batteries are typically accepted as HHW
- NYS Law requires retailers of rechargeable Ni-Cad Lithium Ion and Button batteries to accept them back





Products Containing **Mercury**

- Considered hazardous waste
- Many HHW collection facilities will accept these materials
- Require special handling & packaging to reduce human & environmental risks

Products that may contain mercury

- | | |
|---|---------------------------|
| • Airflow/fan limit controls | • Jewelry |
| • Antiques | • Lamps/Light bulbs |
| • Appliances (Electric & Gas) | • Light switches (Silent) |
| • Barometers | • Mercury |
| • Button cell batteries | • Plumbing |
| • Clothes irons | • Security systems |
| • Electronics | • Shoes |
| • Paint (Latex) | • Sporting Equipment |
| • Pesticides | • Television Sets |
| • Gas flow or gas pressure regulators | • Thermometers |
| • Heating and cooling systems | • Thermostats |
| • Honeywell heat generators/mercury seal generators | • Tilt Switches |

Damage to Humans

- Highly toxic, easily absorbed through skin
- Mercury vapors are toxic when inhaled
- High Exposure can permanently damage the nervous system and kidneys
- Health effects include brain damage, behavioral and developmental problems
- Children are at higher risk

Fish Absorb & Accumulate Methyl mercury

- Fish accumulate mercury from water and eating smaller organisms that contain mercury
- Cleaning fish to be eaten won't protect you

New York State. Department of Environmental Conservation. *Managing and Disposing of Household Hazardous Waste.*



Miscellaneous Chemicals

May or may not be accepted by HHW collection programs

- *Photographic chemicals*
 - May contain toxic or corrosive ingredients
- *Swimming pool chemicals*
 - Corrosive and may cause burns or injury on contact, if swallowed or inhaled
- *Ionizing Smoke detectors*
 - Radioactive and may pose hazards to human health
- *Asbestos*
 - Dangerous when inhaled
- *Gas cylinders*
 - May be recycled if empty and have valve removed





Proper Management of Pharmaceutical Waste

We will cover:

- The human health and environmental risks from improper management of pharmaceutical waste
- How to prevent these chemicals from entering our waterways
- How to properly dispose of pharmaceutical waste



This section developed by the Center for Environmental Initiatives, Rochester

Why should you be concerned

Unwanted pharmaceuticals stored at home can inadvertently contribute to:

- Pollution of our waterways
- Diversion and Drug Abuse
 - Illegal possession
 - Trafficking
 - Abuse of potentially addictive medicines
- Accidental Poisoning
 - Unintentional consumption of medicines by children, vulnerable adults and animals



Pharmaceuticals

What is pharmaceutical waste?

- Pharmaceuticals that have expired or are no longer needed
 - Prescription drugs
 - Over the Counter (OTC) Medications
 - Vitamins and Nutritional Supplements
 - Veterinary Medications



Why do they become waste?

- Pain medication that is never or no longer needed
- Adverse side effects
- New medication replaces old
- Patient doesn't follow instructions
- Patient passes away

Conclusion: With these issues and our aging population requiring more prescriptions, some amount of pharmaceutical waste is inevitable





Pharmaceutical Waste in the US

- 10-43% of the 3.7 billion prescriptions go unused annually¹
- DEA collected 995,000 pounds of pharmaceuticals in 3 nationwide collections over 1.5 years²



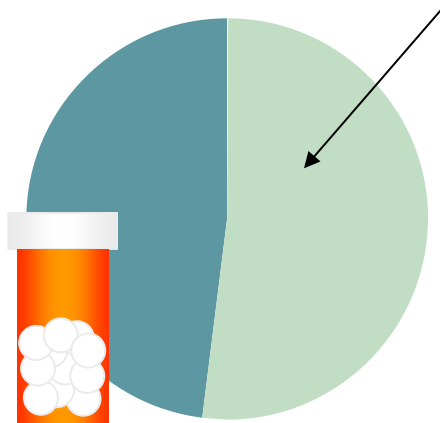
¹Grasso, Cheri, et al. (2009). *Secure Medicine Return in Washington State: The PH:ARM Pilot*. Seattle, Washington: Local Hazardous Waste Management Program in King County.

²U.S. Department of Justice, Drug Enforcement Administration, Office of Diversion Control (2011, November). "DEA's Third National Prescription Drug Take-Back Event Collects 188.5 tons".

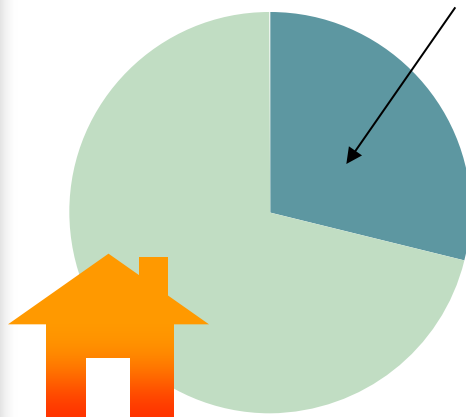


Waste Pharmaceuticals at Home

52% **unused** medication



29% **expired** medication



- A 2008 California study found that returned containers had an average of 52% of the original medication in them¹
- A 1996 North Carolina study found that 29% of the medicines stored in homes had expired²

¹Teleosis Institute (2008). Green Pharmacy Program: Helping Communities Safely Dispose of Unused Medicines.

²Bush et al. (1996). Section II: Cross-cultural reports. Medicines at Home: the contents of medicine cabinets in eight countries



Pharmaceuticals

What types of medicines are the highest concern?

- Hormones and Endocrine Disrupting substances
- Antibiotics
- Painkillers
- Depressants – sleeping pills and anti anxiety drugs
- Stimulants like those used to treat ADHD
- OTC cough suppressants



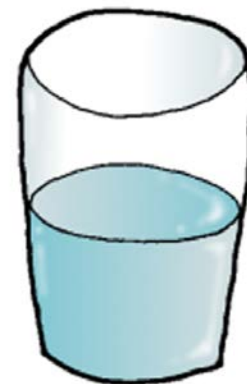
Environmental and Human Health Issues

- Pharmaceuticals in the Waterways
- Diversion and Drug Abuse
- Accidental Poisonings from Pharmaceuticals in homes



Pharmaceuticals in Our Waterways

- Until 2008 conventional wisdom said to flush waste medicines down the drain or toilet
- Flushed Waste Medicines enter our waterways thru treatment facilities and septic systems
- Between 20% and 33% of households flush unwanted medicines down the toilet¹
- These chemicals end up going directly to our waterways
- Flushed medications are found in our lakes, rivers & streams²



Optimist: Glass is half full.

Pessimist: Glass is half empty.

Realist: However you look at it, it's got drugs in it.

US EPA, Pharmaceuticals and Personal Care Products, <http://www.epa.gov/ppcp/>

¹ Northwest Research Group (2006). Sound Stats Report. Washington Citizens for Resource Conservation (WCRC)

²USGS ; Kolpin et al. (2002) Pharmaceuticals, hormones, and other organic wastewater contaminants in US streams, 1999-2000.



Pharmaceuticals

What is the concern?

- Medication ends up in the environment
 - Flushed medication goes to the local water treatment plant
 - Medication in the trash ends up in a landfill and the water that's collected goes to the local water treatment plant
 - The water treatment plant cannot remove these contaminants and they are discharged to Lake Ontario
- Adverse effects on fish have occurred, including¹
 - Decreased reproduction rates
 - Feminization of male fish
 - Slower development rates
 - Additional appendages
- Scientists feel they may be indicative of similar effects on humans²
- There are many concerns, but the long term effect on people is still unknown



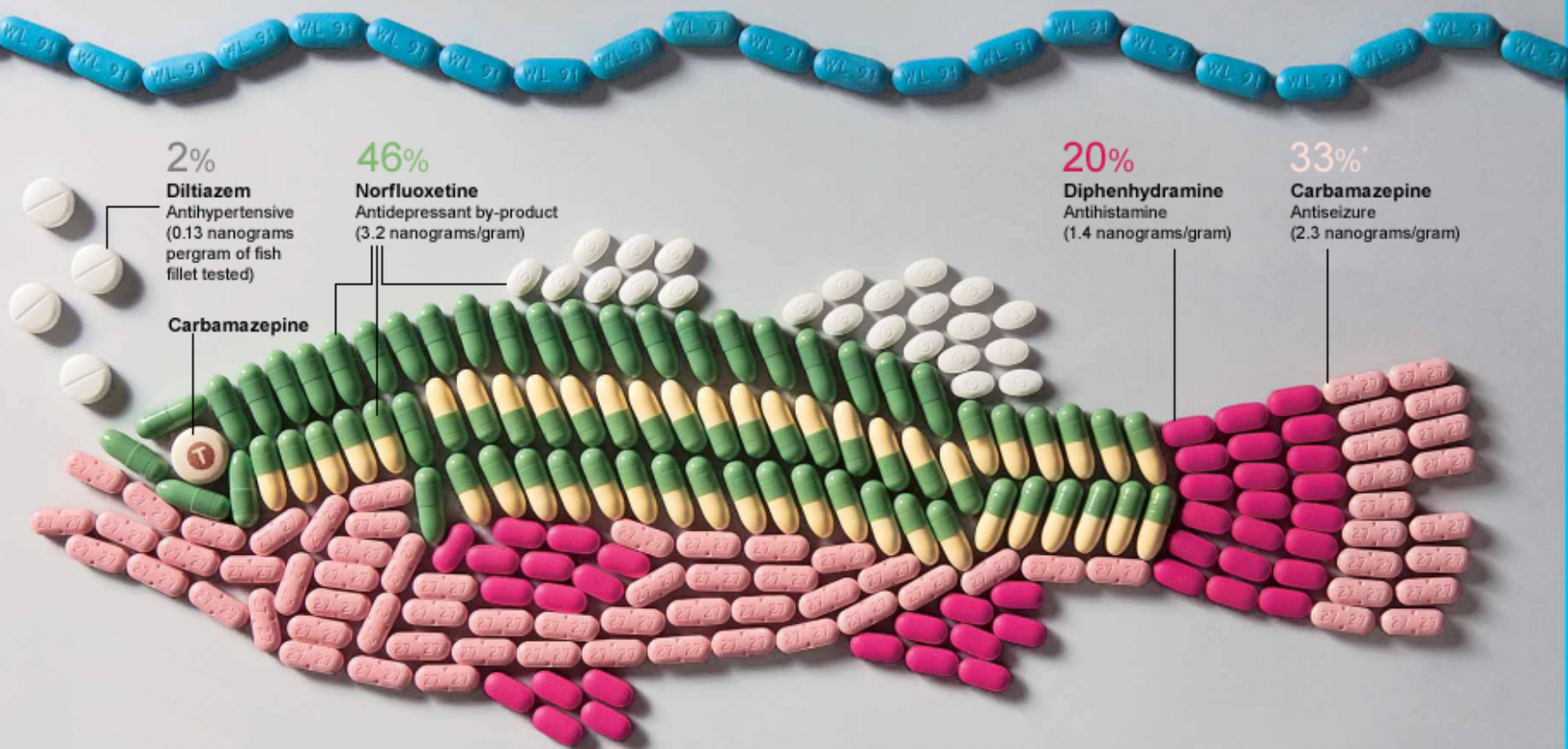
Drugs in New York's Waters, How drugs get into our waters and why DEC is concerned, www.dec.ny.gov/chemical/45083.html

¹NYSDEC ; Stoner, Scott . A New Prescription; Do Not Flush Your Unused Drugs. New York State Conservationist, April 2009.

²GAO-11-346 Environmental Health Action Needed to Sustain Agencies' Collaboration on Pharmaceuticals in Drinking Water, August 2011; page 23

Pomati et al. (2006) Effects of a complex mixture of therapeutic drugs at environmental levels on human embryonic cells.





Fish Pharm

These pills represent the relative amounts of four pharmaceutical drugs found in fish pulled from Chicago's North Shore Channel and tested by Baylor scientists.

The traditional foe of water quality is waste from factories and farms, but now environmental regulators are eyeing a new pollution source: our medicine chests. Fish caught downstream from sewage treatment plants in five U.S. cities contained traces of pharmaceuticals and toiletries, Baylor University researchers found in a recent study. You'd have to eat tons of fish for such small concentrations to affect human health, but the products could pose a threat to marine life. To assess the risk, the EPA has expanded monitoring to 150 sites, with results due in 2011.

* PERCENTAGES EXCEED 100 BECAUSE OF ROUNDING.
BLUE ANTIHISTAMINE PILLS (TOP) ARE NOT INCLUDED IN PERCENTAGES.



Drinking Water

- EPA considers medicines in drinking water to be a contaminant of emerging concern¹
- In 2008, medicines were found in the drinking water of 24 major metropolitan areas serving 41 million people²



Drugs found in Michigan drinking water³

- Atenolol – heart medicine
- Estrogen
- Sulfamethoxazole , Trimethoprin – antibiotics
- Meprobamate – anxiety medicine
- Phenytoin – anti-epileptic drug

¹ GAO-11-346 Environmental Health Action Needed to Sustain Agencies' Collaboration on Pharmaceuticals in Drinking Water, August 2011; Page 5.

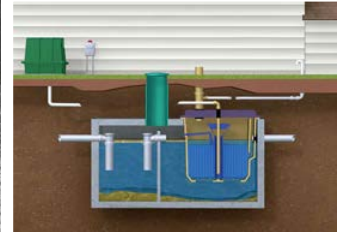
² Donn, J., Mendoza, M., & Pritchard, J. (2008) AP: Drugs Found in Drinking Water. USA Today

³ Protecting the Great Lakes from Pharmaceutical Pollution; 2010 Report from The Alliance for Great Lakes



Sources in our waterways

- Agriculture
- Personal use
- Improper disposal
- Institutional use
- Manufacture of pharmaceuticals





Pharmaceuticals can enter the water supply in a variety of ways. Debates continue over how dangerous this is. Source: GAO , accessed via <http://blogs.ei.columbia.edu/2011/10/05/pharmaceuticals-in-the-water-supply-is-this-a-threat/>



Disposal

- Science has not been able to determine the relative contribution of these sources
- Improper disposal causes environmental contamination as chemicals enter our waterways
 - Flushing down toilets or drains
 - Thrown into trash
 - Waste medicines handled this way are a significant and preventable source of contamination
- Improper storage in the home can lead to
 - Drug abuse
 - Accidental poisoning



Diversion and Drug Abuse

- Illicit use of prescription medicines have replaced heroin and cocaine as the drugs of choice
- In 2005 nearly 600,000 emergency room visits in the US were due to illicit use of medicines¹
- Drug abuse, a majority involving prescription opiates, have surpassed car accidents as the leading cause of accidental deaths²
- Abusers have the misconception that they are safer than the illegal drugs

¹Drug Abuse Warning Network (DAWN) (2009), 2005: National Estimates of Drug-Related Emergency Department Visits.

²Washington State; WA DOH (2007a). Death Data. Mortality Table E1. Age-Adjusted Rates for External Causes for Residents, 1998-2007. And Warner, M., Chen, L.H., & Makkuc, D.M. (2009). Increase in Fatal Poisonings Involving Opioid Analgesics in the United States.





Diversion and Drug Abuse

- Abuse of prescription painkillers ranks 2nd to marijuana as the most prevalent teen drug problem ¹
 - 15% of 10th graders who abuse prescription painkillers get them from their own or someone else's home ²
 - Prescription drugs most abused by teens are painkillers, depressants, stimulants, and OTC cough and cold drugs ¹

¹Office of National Drug Control Policy (2008). Prescription for Danger: A Report on the Troubling Trend of Prescription and Over-the Counter Drug Abuse Among the Nations Teens.

²RMC Research Corporation (2009). Washington State Healthy Youth Survey 2008: Statewide Results, Grade 10

2011 Accidental Poisonings in Upstate NY

Adult Poisonings

1. **Sedative, hypnotics, antipsychotics**
2. **Pain killers**
3. **Antidepressants**
4. Alcohol
5. **Cardiac Medications**
6. Cosmetics
7. Hydrocarbons
8. Pesticides
9. **Stimulants**
10. Cleaning Products

Children under 5 Poisonings

1. Cosmetics
2. Cleaning Products
3. **Pain reliever**
4. Topical Preps
5. Foreign Bodies
6. **Cough and Cold Medications**
7. Arts & Crafts and Office Supplies
8. Plants
9. **Vitamins**
10. Pesticides





Best Practices

- **PREFERRED**
 - Take to local/regional collection event
- **ALTERNATIVE**
 - If not possible, place in trash after making it unrecognizable





Disposal at Home

To prevent diversion and misuse:

- Add water and then salt, ashes, dirt, cat litter, coffee grounds, or another undesirable substance, to drugs to avoid accidental or intentional misuse. Do not conceal discarded drugs in food to prevent consumption by scavenging humans, pets or wildlife.
- Place all medications in a container, such as bag, box or plastic tub. Seal the container with strong tape.
- Dispose of drugs as close to your trash collection day as possible.
- **Note:** Be careful in handling medications. Some drugs can cause harm if handled by some people. Avoid crushing pills as some medications can be harmful in powder form.
- **Medications self-administered by injection with a needle or "sharp":** Place in a puncture proof container, seal with tape and label "sharps." NYS strongly recommends that sharps be disposed of at hospital-based household sharps collection programs.

Note: original plastic containers may be "blue box" recycled if acceptable in your area. Check with your waste hauler.



Resources for more Information

- Current schedule of collection events available on the NYSDEC website at <http://www.dec.ny.gov/chemical/63826.html>
- Instructions for holding a collection event available on the NYSDEC website at <http://www.dec.ny.gov/chemical/68554.html>
- Additional Information
 - Disposal information for households available from the NYSDEC at <http://www.dec.ny.gov/chemical/67720.html>
 - Environmental and human health information available from the US EPA at <http://www.epa.gov/ppcp/basic2.html>





Monroe County

Pharmaceutical Collections

- Scheduled events at a variety of sites, check the schedule online at <http://www.monroecounty.gov/hhw>
- ecopark: 7:30am-1pm; 2/19, 3/8, 3/26, 4/12, 4/30
- Ogden PD: 1pm-3pm; 3/7, 4/4, 5/2
- Brighton PD: 1pm-3pm; 3/7, 4/4, 5/2
- Greece PD: 9am-noon; 2/12, 3/12, 4/9, 5/14
- Fairport PD: 9am-1pm; 3/5, 4/2, 5/7
- East Rochester PD: 10am-1pm; 2/19, 3/19, 4/16, 5/21
- Penfield MC Sheriffs A Zone Substation: 10am-1pm; 3/11, 4/8, 5/13



Pharmaceutical Collection Events in St. Lawrence County

- Kinney Drugs offers collection events the last Saturday of every month
 - Medicine Collection arranged by St. Lawrence County Planning Office
- For info, visit

<http://www.co.st-lawrence.ny.us/> or call (315)379-2292

WHAT YOU CAN BRING:

- **NON-CONTROLLED** Prescription Medications
- Pet Medications
- Over-the-Counter Medications Including
 - Ointments
 - Sprays
 - Inhalers
 - Creams

DO NOT BRING:

- Controlled Prescription Drugs (Oxycontin, Percocet and Hydrocodone)
- Illegal Drugs
- Biohazardous Materials
- Needles/Sharps
- Personal Care Products (shampoo, soap, lotion, sunscreen, etc.)
- Household Hazardous Waste (paint, pesticides, oil, gas, etc.)

Medicine Collection

NON-CONTROLLED PRESCRIPTION DRUGS AND OVER-THE-COUNTER MEDICATIONS ONLY

See a list of the accepted medications on back panel

Last Saturday of Every Month at all Kinney Pharmacies!

Due to state regulations we are only able to accept **NON-CONTROLLED** prescription drugs at this event. For more information, ask your Kinney pharmacist.

Kinney DRUGS

For more information, visit www.kinneydrugs.com or "Like" us on **facebook** at www.facebook.com/kinneydrugs





Pharmaceutical Collection in Onondaga County

- In Onondaga County all household trash is destroyed in a Waste-to-Energy Incinerator
- Therefore, all unwanted medicines should be disposed of with the household trash
- Visit www.ocrra.org for more information
- To find out if a local event is planned in your area (outside Onondaga County) contact:
 - Local Officials
 - Local Law Enforcement
 - Local Pharmacies





Collections in Erie County

Dispose of your medications free of charge:

Kenmore Police Department

2395 Elmwood Avenue, Kenmore

New York State University Police

Bissell Hall, Buffalo

- Expired or unwanted prescription and over-the-counter-drugs, including controlled substances, EPI-pens, pet medications, inhalers.
- Secure drop box
- 24/7 access
- Contact police for details





E-Waste

a popular, informal name for electronic products nearing the end of their useful life

Common E-waste:

- Computers, televisions, VCRs, stereos, copiers, fax machines, cell phones
- Many of these products can be reused, refurbished, or recycled
- E-waste is one of the fastest growing segments of our nation's waste stream



Electronic equipment contains hazardous materials

- lead, mercury, and cadmium can be toxic if released into the environment
- used electronic equipment needs to be managed properly - in some cases means it should be treated as **hazardous waste**

United States. NYS Department of Environmental Conservation. *Used Electronic Equipment*. 2011.

Funding provided by the US Environmental Protection Agency Great Lakes Restoration Initiative in the amount of \$104,192 and by the NYS Pollution Prevention Institute through a grant from the NYS Department of Environmental Conservation.



E-Cycling in New York

NYS Electronic Equipment Recycling & Reuse Acts

- Since April 1, 2011
- Requires manufacturers to provide free and convenient recycling of electronic waste to most consumers in the state
- Manufacturers must collect a defined amount based on their sales and an annual per capita statewide goal

E-Waste Covered by NYS Law

- Televisions, VCRs, DVRs, DVD players
- Small scale servers
- Computers, Monitors and peripherals (i.e. electronic equipment connected by cable to the CPU of a computer)
- Electronic keyboards or mice
- Facsimile machines, document scanners, and printers
- Portable digital music players
- Digital converter boxes
- Cable or satellite receivers
- Electronic or video game consoles

NYS Department of Environmental Conservation. *Used Electronic Equipment*. 2011.



3 Easy Steps to e-Cycle in NY

- 1. Go to DEC's list of electronic equipment manufacturers registered in NYS**
 - Registered Electronic Waste Recycling Facilities
<http://www.dec.ny.gov/chemical/73670.html>
- 2. Find the manufacturer's brand of equipment you wish to recycle**
 - click on that manufacturer's website link or call its listed toll-free telephone number
- 3. Follow the specific instructions listed on the manufacturer's website or provided over the telephone**
 - The manufacturer will provide information on how to recycle your equipment, free of charge





Benefits of Proper Disposal

1. **PROTECT** children and pets from direct contact.
2. **PREVENT** unexpected reactions and exposures that may harm solid waste handlers and firefighters.
3. **MAINTAIN** healthy soil bacteria to increase plant diversity and overall plant health.
4. **CONSERVE** freshwater systems and the health of fish and aquatic insects.
5. **PROTECT** food supplies including crops and forest resources (fish, deer, etc.).
6. **PREVENT** pollution of our groundwater.
7. **PROTECT** our bodies from dangerous levels of harmful, bioaccumulating poisons.

Weber, Laura. "Tribal Guide For Managing Household Hazardous Wastes." July 2011, http://srmt-nsn.gov/_uploads/site_files/SRMT_HHW_Manual.pdf



Reduce at Home

1. Use non-hazardous or less hazardous products
2. Reduce the amount/toxicity of products you use
 - Learn about toxicity of products and appropriate alternatives
3. Only buy and use the amount needed
4. Leftover materials can be shared
 - Check expiration or “use by” dates to ensure the product can still safely be used before sharing with others
 - Shared with neighbors, friends, relatives
 - Donate to businesses, charity or government agency
 - Excess pesticides offered to greenhouse or garden center
 - Surplus paint donated to theater groups
 - Swap or donate at organized waste exchange events

Environmental Protection Agency. *Household Hazardous Waste: Steps to Safe Management*. 1993

New York State. Department of Environmental Conservation. *Managing and Disposing of Household Hazardous Waste*.



Safe Use

- Read and follow directions on the container for proper use and disposal
 - Note **Signal Words** when reading labels
- Use products containing hazardous substances carefully to prevent any accidents at home
- Use less toxic alternatives for household products whenever possible
- Recycle whenever possible

Environmental Protection Agency. *Household Hazardous Waste: Steps to Safe Management*. 1993

New York State. Department of Environmental Conservation. *Managing and Disposing of Household Hazardous Waste*.



Safe Storage

- Never store hazardous products in food containers
- Keep products containing hazardous materials in their original containers and never remove labels
- Corroding containers, however, should be repackaged and clearly labeled
 - Prevent accidental ingestion
 - Protect sanitation workers
- Never mix household hazardous waste with other products
 - Incompatibles may react, ignite, or explode
 - Contaminated waste may become unrecyclable
- Store In an out-of-the-way location, away from heat and children or pets.
 - Ignitable wastes should be stored away from the house, such as a garage or garden shed

Environmental Protection Agency. *Household Hazardous Waste: Steps to Safe Management*. 1993

New York State. Department of Environmental Conservation. *Managing and Disposing of Household Hazardous Waste*.

HHW & Pharmaceutical Disposal in Genesee, Livingston & Wyoming Counties

Typically held in the fall in Genesee County. Appointments
Required. Call or email for an appointment.

Contact GLOW office at 800/836-1154 or 585/344-2580
ext. 5463 or Email glow@co.genesee.ny.us or
pgrayson@co.genesee.ny.us

Website: <http://www.glowsolidwaste.org>

Information from GLOW Region Solid Waste Management Committee online at <http://www.glowsolidwaste.org/programs.html>



Monroe County

How can I get rid of my household hazardous waste?

FREE program for Monroe County residents

Monroe County residents can bring up to **30 gallons of liquid and 75 pounds of solid HHW** per appointment without charge.

To schedule an appointment call 753-7600 (Option 3) or visit <http://www.monroecounty.gov/ecopark>

Location: 10 Avion Drive, Rochester [near the airport]





Residential Household Hazardous Waste, Electronics and Pharmaceutical/Controlled Substances Collection Days

For Seasonal and Year-Round Residents of Jefferson, Lewis and St. Lawrence Counties –
Not Commercial, Municipal or Institutional

WHEN: SATURDAY, JUNE 8, 2013

9:00 AM TO 1:00 PM

WHERE: HUMAN SERVICES BLDG-80 STATE HWY 310-CANTON, NY

WHEN: SATURDAY, SEPTEMBER 14, 2013

9:00 AM TO 1:00 PM

WHERE: OLD VILLAGE DPW SITE (OFF SH 420) - 536 SOUTH MAIN ST-MASSENA, NY

★ **SPECIAL** ★

DON'T FLUSH YOUR DRUGS!

★ **SPECIAL** ★

WE WILL BE ACCEPTING UNUSED OR UNWANTED PRESCRIPTION AND OVER-THE-COUNTER MEDICINES

(ST. LAWRENCE COUNTY RESIDENTS ONLY: PHARMACEUTICALS AND CONTROLLED SUBSTANCES, NO SHARPS)

The following types of waste **WILL BE ACCEPTED:**

- Electronics: (computers central processing units (CPUs), Cathode ray tube (CRT) monitors, television sets, cell phones, personal digital assistants (PDAs)) (See below for unacceptable electronics.)
- Solvents (including old gasoline, old kerosene, thinners, methyl-ethyl ketone, acetone, toluene, xylene, methylene chloride, etc.)
- Household batteries (button/nickel-metal hydride/nickel-cadmium)
- Pesticides (solid, liquid and poisons)
- Miscellaneous vehicle fluids (except recyclable, used motor oil)
- Fluorescent light tubes and ballasts and compact fluorescent lights (CFLs)
- Adhesives
- Antifreeze
- Pool Chemicals
- Oil-based paints and stains
- Household cleaning products
- Aerosol cans
- Photography chemicals
- Epoxy resins
- Polishes and Waxes
- Driveway sealers
- Wood preservatives
- Corrosives
- Home chemistry sets
- Products containing Mercury





Onondaga County

2012 Events (at Ley Creek Transfer Station)

Saturday, May 19, 8 am - 2 pm Saturday, July 21, 8 am - 2 pm Saturday, October 6, 8 am - 2 pm
To participate in a drop-off event, you must live in the OCRRA service area (all of Onondaga County, but excludes the Town and Village of Skaneateles, NY). You must also have a reservation.

Packaging information available on the OCCRA website http://www.ocrra.org/programs_hazardous.asp

Year-round disposal options

Can't wait until OCRRA's next household hazardous waste collection? Or, are you a business with hazardous material to dispose of? Environmental Products and Services, a local provider of environmental services, offers a year-round drop-off operation for hazardous waste. Call 451-6666 for pricing and information.

Items Accepted at Events:

- **Automotive products** such as transmission or brake fluid, engine degreaser, anti-freeze, diesel fuel, gas cans, and contaminated gasoline.
- **Painting supplies**, including OIL-BASED paints, stains, or finishes, paint thinner, turpentine, brush cleaner, paint stripper, and wood preservatives.
- **Garden supplies and pesticides.**
- **Cleaning supplies**, such as oven cleaner, drain cleaner, lye, toilet bowl cleaner, floor and furniture polish, mothballs and products containing petroleum.
- **Miscellaneous products**, such as fluorescent light bulbs, fire extinguishers, pool chemicals, lighter fluid, kerosene, driveway sealer, mercury thermometers and thermostats, nail polish remover, smoke detectors, loose asbestos that has been double bagged, and any product whose label has descriptions such as toxic, flammable, poisonous, corrosive.

Items NOT Accepted at Events:

- Latex paint
- More than 200 lbs. of material, 50 gallons of oil-based paint, any container larger than 5 gal, more than 50lbs of a solid, any 55gal drums
- Any empty paint cans or cans with dried up paint (put them in the trash).
- Wall paper paste or dry wall sizing.
- Auto batteries (take to battery retailer for recycling).
- Empty aerosol cans that did not contain hazardous materials (put in blue bin).
- Motor oil (take to service station).
- Propane tanks of any size
- Controlled substances.
- Etiological, pathological, or medical waste.
- Explosives.
- Radioactive materials.
- Non-hazardous products (i.e. soap).
- Asbestos pipes.

Information from OCCRA online at http://www.ocrra.org/programs_hazardous.asp



ERIE COUNTY / TOWN OF AMHERST HOUSEHOLD HAZARDOUS WASTE DROP-OFF DAY

ERIE COMMUNITY COLLEGE
North Campus—WILLIAMSVILLE, NY
(enter from Wehrle Drive)

Saturday, May 18, 2013
9:00 A.M. - 2:00 P.M.

Items which can be brought to the site for free, proper disposal include:

- ♦ PESTICIDES, FERTILIZERS, POOL AND HOUSEHOLD CHEMICALS/CLEANERS -limit 2 gallons or 20#
- ♦ OIL-BASED PAINTS, SPRAY CANS -limit 10 gallons
- ♦ PAINT THINNER, STRIPPER & SOLVENTS -limit 2 gallons
- ♦ BATTERIES - lead acid & rechargeable
- ♦ OIL, GASOLINE, KEROSENE, ANTIFREEZE-limit 10 gallons
- ♦ MERCURY - thermometers, thermostats, metal
- ♦ PROPANE TANKS & CYLINDERS - full or empty



NO LATEX PAINT, TIRES, COMPUTERS, PHARMACEUTICAL, COMMERCIAL/INDUSTRIAL WASTE

Note: Participants may need to verify that wastes are generated by households.



Mark Poloncarz County Executive

Sponsored by:



Dr. Barry Weinstein
Amherst Town Supervisor

For more information:

call 858-6800

or visit www.erie.gov/environment

Support from the following is gratefully acknowledged:

Erie Community College; Elwood Fire Protection Inc
NOCO Energy Corp.; The Battery Post, Inc.
NYS Department of Environmental Conservation

ERIE COUNTY HOUSEHOLD HAZARDOUS WASTE DROP-OFF DAY

ERIE COMMUNITY COLLEGE
South Campus—ORCHARD PARK, NY
(enter from Big Tree Road- Route 20A via Abbott Road)

Saturday, JUNE 15, 2013
9:00 A.M. - 2:00 P.M.

Items which can be brought to the site for free, proper disposal include:

- ♦ PESTICIDES, FERTILIZERS, POOL AND HOUSEHOLD CHEMICALS/CLEANERS -limit 2 gallons or 20#
- ♦ OIL-BASED PAINTS, SPRAY CANS -limit 10 gallons
- ♦ OIL, GASOLINE, KEROSENE, ANTIFREEZE-limit 10 gallons
- ♦ PAINT THINNER, STRIPPER & SOLVENTS-limit 2 gallons
- ♦ BATTERIES - lead acid & rechargeable
- ♦ MERCURY - thermometers, thermostats, metal
- ♦ PROPANE TANKS & CYLINDERS - full or empty



NO TIRES, LATEX PAINT, FLOURESCENT LIGHT BULBS, COMPUTERS, APPLIANCES,

COMMERCIAL/ INDUSTRIAL WASTES



Mark C. Poloncarz
Erie County Executive

Sponsored by:

Erie County Department of Environment and Planning

Support from the following is gratefully acknowledged:

Erie Community College; Elwood Fire Protection Inc.
NOCO Energy Corp.; The Battery Post, Inc.
NYS Department of Environmental Conservation



Mark
Shuttleworth
Chairperson, NEST

For more information:
call 858-6800

or visit www.erie.gov/environment



Key Points to Remember:

- ✓ Separate HHW from your regular trash
- ✓ Store HHW safely in your home
- ✓ Deliver HHW to a collection site in your community for treatment and safe disposal

