



We protect what matters.



Solid Waste
Workshop

Household
Hazardous
Waste-
An Overview of
Important
Topics

November 21, 2019

Overview

- Why are Household Hazardous Waste Collection Programs Important?
- Program Operations
- An Overview of How the Regulations Apply to HHW
- Public Awareness
- Local Options for Program Manager Education, Training Through Networking

Why HHW Programs Are Important

WHY?

- Prevent environmental contamination caused by improper disposal
- Prevent property damage caused by improper disposal
- Prevent injuries to people

What is Hazardous Waste?

“Waste that is dangerous or potentially harmful to our health or the environment.” - EPA



IGNITABLE



REACTIVE



CORROSIVE



TOXIC

Why HHW Programs Are Important

Prevent Illegal Dumping



Why HHW Programs Are Important

Prevent Property Damage



Why HHW Programs Are Important



City of Buffalo, NY HHW Fire Incident

Why HHW Programs Are Important



City of Kilgore, Texas HHW Trash Truck Fire

BRIDGETON, Missouri



Why HHW Programs Are Important

- **HHW is a material that could put human health or the environment at risk.**
- **Household hazardous materials constitute the most direct and frequent way the public is exposed to hazardous waste.**

Facts Poison Exposures in the United States:

- One poison exposure every 14 seconds.
- 2.159 million poisonings reported in 2016
- Majority of poisonings involve everyday household items such as cleaning supplies, medicines, cosmetics and personal care items.
- Poisonings resulting in serious injury or death: 8.8%

Children and Poison:

- 46 percent of poisonings occur in children under the age of six.

<https://www.poison.org/poison-statistics-national-data-from-2016>

Why HHW Programs Are Important

Year: 2016	
Human Poison Exposures	2,159,032
Animal Poison Exposures	54,019
Confirmed Non-Exposures	6,776
Info Calls - Drug ID	137,880
Info Calls - Other	352,335
Total	2,710,042

Why HHW Programs Are Important

Reason by Age Group (2016, column percents)

	<6 Years	6-12 years	Teens	Adults	All Ages
Unintentional					
General	91.3%	42.3%	10.9%	14.4%	51.6%
Therapeutic Error	6.0%	25.7%	9.8%	19.7%	12.8%
Environmental	0.8%	3.7%	2.3%	4.4%	2.6%
Misuse	0.5%	9.7%	6.8%	12.6%	6.3%
Bite/sting	0.5%	3.3%	2.1%	3.7%	2.0%
Food Poisoning	0.3%	1.1%	0.8%	1.7%	0.9%
Occupational	0.0%	0.0%	0.9%	3.1%	1.3%
Unknown	0.0%	0.2%	0.2%	0.3%	0.2%
Subtotal Unintentional	99.4%	85.9%	33.8%	59.7%	77.8%
Intentional					
Suspected suicide	0.0%	2.8%	46.1%	21.5%	12.2%
Misuse	0.0%	6.1%	6.3%	4.7%	2.7%
Abuse	0.0%	0.4%	6.8%	4.4%	2.3%
Unknown	0.0%	0.9%	2.3%	1.7%	0.9%
Subtotal Intentional	0.0%	10.2%	61.5%	32.3%	18.1%
Adverse Reaction	0.3%	2.0%	2.3%	5.1%	2.5%
Other/Unknown	0.2%	1.9%	2.3%	1.4%	1.6%

Why HHW Programs Are Important

Cosmetics and personal care products lead the list of the most common substances implicated in pediatric exposures (children younger than 6 years, NPDS, 2016). Cleaning substances and pain medications follow. These exposures are nearly always unintentional.

	No.	%
Cosmetics & Personal Care Products	138,904	13.3
Cleaning Substances	115,701	11.1
Analgesics	96,312	9.2
Foreign Bodies/Toys/Miscellaneous	67,771	6.5
Topical Preparations	52,984	5.1
Antihistamines	47,476	4.5
Vitamins	46,306	4.4
Pesticides	34,608	3.3
Dietary Supplements/Herbals/Homeopathic	34,443	3.3
Plants	28,636	2.7

<https://www.poison.org/poison-statistics-national-data-from-2016>

Program Operations

Regulatory Compliance & Program Operations

The following regulations apply Household Hazardous Waste program operations, both for permanent facilities and 1-day mobile event programs:

➤ RCRA (Resource Conservation & Recovery Act)

<https://www.epa.gov/rcra>

➤ DOT (Department of Transportation)

<https://www.compliancetrainingonline.com/resources.cfm>

➤ 29 CFR 1910.120 (OSHA, Occupational Safety & Health Act)

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/>

➤ TCEQ (Texas Commission on Environmental Quality)

<https://www.tceq.texas.gov/assets/public/legal/rules/rules/pdflib/335n.pdf>



**TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY**

Your responsibility with **RCRA**



Identify & Evaluate All Waste Streams



Properly Collect, Store & Dispose of the Waste



Prepare & Save Documentation



Know Emergency & Spill Response Procedures

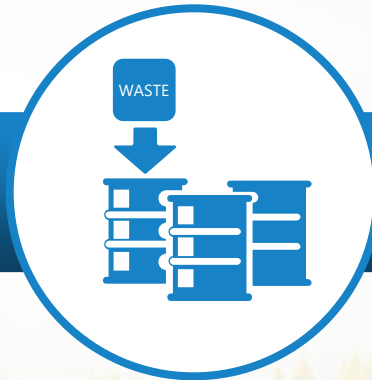


Train Employees

Regulated Waste – Cradle to Grave



Waste is generated



**Characterized
and segregated**



**Collected and
transferred to a
Stericycle facility**

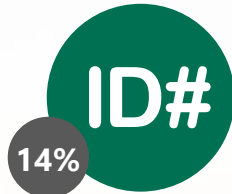


**Processed and
treated for
end disposal**

Top Violations



Proper Labeling



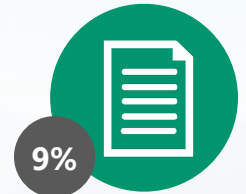
EPA ID #'s



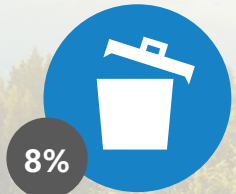
Program Management



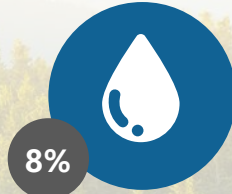
Manifest Recordkeeping



Program Documentation



Container Management



Oil / Filter Management



Exceeding Accumulation Date



Emergency Plan Management



Employee Training

Program Operations

Regulatory Compliance & Program Operations

The following are examples of TCEQ required forms:

- 45 Day Notification
- Facility Registration/Notification (for permanent facilities)
- Core Data Form (for permanent facilities)
- Storage Extension Request form
- Annual Report Form



**TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY**

Program Operations

Regulatory Compliance & Program Operations

An Overview of How the Regulations Apply to HHW Program Operations

- 1-Day event/mobile collection programs
 - a) 45 Day Notification submitted to TCEQ
 - b) Generator status
 - b) Waste stream waste profiles
 - c) Waste manifests
 - d) Shipping labels
- Permanent HHW Facility
 - a) 45 Day Notification
 - b) Facility registration
 - c) Same Waste stream profiles, manifests and shipping labels as 1-Day event

Program Operations



WASTE CHARACTERIZATION WORKSHEET

ALL fields must be completed upon submission. Incomplete profiles will NOT be approved.

Process Code _____

Profile # _____

A - Generator Information Name: _____ S.I./CNAICS Code: _____ EPA ID #: _____
 Site Address: _____ City: _____ State: _____ Zip: _____
 Mailing Address: _____ City: _____ State: _____ Zip: _____
 Contact: _____ Phone: _____ Fax: _____ Email: _____

B - Billing/Broker Information Name: _____
 Address: _____ City: _____ State: _____ Zip: _____
 Contact: _____ Phone: _____ Fax: _____ Email: _____
 Salesperson: _____ Customer Service Rep: _____

C - Waste Information
 State Waste Code(s) _____ EPA Waste Code(s) _____
 Waste Common Name _____ Generating Process _____

Treatment/Disposal Restrictions Special Handling Instructions _____
 Analysis Attached Yes No MSDS Attached Yes No Samples Enclosed Yes No
 Annual Generation Quantity _____ Lbs _____ Gals _____ Drums _____ Tons _____ Other _____
 Shipping Frequency Daily Weekly Monthly Quarterly Yearly One Time Other _____
 Container Type Bulk Liquid Bulk Solid Container (Size/Type) _____

D - Physical Characteristics
 Physical State @ 70°F Gas Liquid Sludge Solid Debris Monolithic Labpack Loosepack
 Layer(s) Single Phase Bi-Layered Multi-layered Describe _____
 Free Liquids None Yes Liquid Range _____ % Solid Range _____ %
 Odor None Mild Strong Describe _____
 Specific Gravity <0.8 0.8 - 1.0 1.0 - 1.2 >1.2 Actual _____
 Flash Point <73°F 73 - 100°F 101 - 141°F 141 - 200°F >200°F N/A Actual _____
 Flash Test Method MSDS Generator Knowledge Open Cup Closed Cup None
 pH <2.0 2.1 - 5.9 6.0 - 8.0 8.1 - 12.4 >12.5 Actual _____
 Color _____ Appearance _____ Shock Sensitive Yes No Water Reactive Yes No
 Fuel Characteristics BTU/lb _____ Halogens _____ % Water _____ % Free Miscible Heated Material (>140°F)

E - Miscellaneous Questions Is the waste any of the following?
 Ignitable Solid Yes No Reactive Metal Powders Yes No NIOSH Human-Positive Carcinogens Yes No
 Pyrophoric Yes No Reactive (Other) Yes No NESHAP Wastes (Benzene, etc.) Yes No
 Water Reactive Yes No Biological Yes No If yes, specify _____
 Oxidizer Yes No Activated Carbon Yes No Asbestos Yes No
 Nitro Cellulose/Lacquer Dust Yes No If yes, specify _____

F - Metals
 Metal Code Generator Knowledge TCLP Total Metal Code Generator Knowledge TCLP Total
 Arsenic D004 <5ppm _____ ppm Lead D008 <5ppm _____ ppm
 Barium D005 <100ppm _____ ppm Mercury D009 <0.2ppm _____ ppm
 Cadmium D006 <1ppm _____ ppm Selenium D010 <1ppm _____ ppm
 Chromium D007 <5ppm _____ ppm Silver D011 <5ppm _____ ppm
 Characteristic (D012-D043) TCLP Total Generator Knowledge
 Amount in ppm _____



G - Toxics

Toxics	None	Analysis	Toxics	None	Analysis	Toxics	None	Analysis
PCBs	<input type="checkbox"/>	_____ ppm	Urea/Thiourea	<input type="checkbox"/>	_____ ppm	Phosphorus Compounds	<input type="checkbox"/>	_____ ppm
Dioxins	<input type="checkbox"/>	_____ ppm	Phenols	<input type="checkbox"/>	_____ ppm	Cyanides: Reactive	<input type="checkbox"/>	_____ ppm
Herbicides	<input type="checkbox"/>	_____ ppm	VOCs	<input type="checkbox"/>	_____ ppm	Cyanides: Amenable	<input type="checkbox"/>	_____ ppm
HOCs	<input type="checkbox"/>	_____ ppm	TOC	<input type="checkbox"/>	_____ ppm	Cyanides: Total	<input type="checkbox"/>	_____ ppm
Aromatic Amines	<input type="checkbox"/>	_____ ppm	VOCs	<input type="checkbox"/>	_____ ppm	Sulfides: Reactive	<input type="checkbox"/>	_____ ppm
Pesticides	<input type="checkbox"/>	_____ ppm	Quinones	<input type="checkbox"/>	_____ ppm	Sulfides: Total	<input type="checkbox"/>	_____ ppm
Fungicides	<input type="checkbox"/>	_____ ppm	Ammonia	<input type="checkbox"/>	_____ ppm			

H - Chemical Composition

Chemical Name (Be Specific, No Trade Names)	Mn	Max	Chemical Name (Be Specific, No Trade Names)	Mn	Max
_____	%	%	_____	%	%
_____	%	%	_____	%	%
_____	%	%	_____	%	%
_____	%	%	_____	%	%

I - Trans Information Form Code: W Source Code: G
 DOT Hazardous Yes No Marine Pollutant Yes No Inhalation Haz Yes No Dangerous When Wet Yes No
 DOT Shipping Name _____

Technical Description (n.o.s. Constituents)
 Hazard Class _____ ERG # _____ UN/NA# _____ Packaging Group _____ Reportable Quantity (RQ) in lbs _____

J - Regulatory Information
 USEPA regulated hazardous waste? Yes No Explosive material? Yes No
 Subject to categorical discharge standards? Yes No Does this waste contain friable asbestos? Yes No
 TSCA regulated PCBs Yes No Does this waste contain non-friable asbestos? Yes No
 CERCLA cleanup action waste? Yes No Infectious or medical waste? Yes No
 Dioxin bearing waste per 40 CFR 261.31 Yes No Waste subject to Subpart CC regulations? Yes No
 Radioactive waste? Yes No State regulated waste? Yes No

K - Landban Information
 Waste Subject to Land Disposal Restrictions (LDR)? Yes No Is a Land Disposal Restriction Notification Required? Yes No
 Does this waste meet definition of RCRA Hazardous debris? Yes No LDR material meets federal treatment standards? Yes No
 This waste is a Wastewater Non-wastewater Is an Underlying Hazardous Constituent for Required? Yes No
 Is a Land Disposal Restriction Notification attached? Yes No

L - Certification
 I hereby represent and warrant that I have personally examined and am familiar with the information contained and submitted in this and all attached documents. Based on my inquiry and personal knowledge of those individuals responsible for supplying or obtaining the information, the information contained herein is true, accurate, and complete to the best of my knowledge and belief. Furthermore, no material fact has been omitted so as to make this information misleading. I understand that others may rely on this representation and warranty in the handling and processing of the waste material described herein.

Printed: _____ NAME _____ DATE _____

Signature: _____ NAME _____ DATE _____

Program Operations

Please print or type Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator ID Number 2. Page 1 of 3 3. Emergency Response Phone 4. Manifest Tracking Number

5. Generator's Name and Mailing Address Generator's Site Address (if different than mailing address)

Generator's Phone: _____

6. Transporter 1 Company Name U.S. EPA ID Number

7. Transporter 2 Company Name U.S. EPA ID Number

8. Designated Facility Name and Site Address U.S. EPA ID Number

Facility's Phone: _____

	9a. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number) and Packing Group (if any)	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		No.	Type			
1						
2						
3						
4						

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of the consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/correlated, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. I export shipment and I am the Primary Exporter. I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste transportation statement identified in 40 CFR 263.10(a) (I am a large quantity generator) or (b) (I am a small quantity generator) is true: Generator's/Owner's Printed Typed Name _____ Signature _____ Month _____ Day _____ Year _____

16. International Shipments Export to U.S. Export from U.S. Part of shipment/ Date leaving U.S. _____

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed Typed Name _____ Signature _____ Month _____ Day _____ Year _____

Transporter 2 Printed Typed Name _____ Signature _____ Month _____ Day _____ Year _____

18. Discrepancy

18a. Discrepancy Indication Space Quantity Type Residue Partial Rejection Full Rejection

18b. Alternate Facility (or Generator) Manifest Reference Number _____ U.S. EPA ID Number _____

Facility's Phone: _____

18c. Signature of Alternate Facility (or Generator) _____ Month _____ Day _____ Year _____

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2	3	4
---	---	---	---

20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a: Printed Typed Name _____ Signature _____ Month _____ Day _____ Year _____

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

EPA Form 8700-22 (Rev. 12-17). Previous editions are obsolete.

Options to Meet Your Goals!



SUSTAINABILITY SCALE



Waste Minimization



Recycling



Fuel Blending



Energy Recovery



Treatment



Incineration



Landfill

CUSTOMER FIRST!

- **Multiple Sustainability Options**
Customized to help you meet your corporate responsibility goals
- **No End-Disposal Ownership**
End-disposal truly based on your needs
- **Waste Stream Customization**
Selection of processing by waste stream to fit your budget

Public Awareness

HHW Collection Programs and Public Awareness should go “hand-in-hand”

- **HHW is a material that could put human health or the environment at risk.**
- **Household hazardous materials constitute the most direct and frequent way the public is exposed to hazardous waste.**

Public Awareness

HHW Collection Programs and Public Awareness should go “hand-in-hand”

Almost all HHW collection programs are government sponsored with some being sponsored by non-profit organizations. Collection programs have direct contact with residents and can/should and do serve as the conduit for informing the public about proper household chemical management and household hazardous waste disposal.

Common channels for disseminating information to the public are:

- information packets given to residents at collections and permanent facilities
 - internet and government web sites/pages
 - information flyers
 - radio public service announcements
 - newspaper advertisements and articles/stories
 - logos and mascots
 - utility bills

Public Awareness

Samples of public awareness media

HOUSEHOLD HAZARDOUS WASTE COLLECTION & PRODUCT EXCHANGE CENTER FOR COLORADO COUNTY RESIDENTS

Saturday, October 21

8:30 a.m. to 12:30 p.m.

Colorado County Fair Grounds

Hwy 71 at Crossroads Blvd
 Follow signs to main gate & pavilion area

WHAT TO BRING FROM HOME

THE FOLLOWING ITEMS WILL BE ACCEPTED IN HOUSEHOLD QUANTITIES, AT NO CHARGE:

- ACIDS
- ALUMINUM
- BATTERIES
- AUTOMOBILE TIRES (up to 24" dia.)
- BATTERIES
- CELL PHONES, TELEPHONES
- COMPUTER COMPONENTS/PRINTERS
- CLEANING PRODUCTS, SUCH AS TOILET, OVEN CLEANER, STAIN REMOVER, CARBURETOR
- PLASTICS
- TY'S - NO VEHICLE CONGOLES

WHAT NOT TO BRING

THESE TYPES OF ITEMS WILL NOT BE ACCEPTED:

- AGRICULTURAL CHEMICALS
- DRUGS
- APPLIANCES
- EXPOSURES
- INDUSTRIAL OR COMMERCIAL/BUSINESS WASTE

- LARGE PROpane CONTAINERS
- MEDICAL AND PHARMACEUTICAL ITEMS
- RADIOACTIVE MATERIALS
- TANKS LARGER THAN 5 GALLON
- TANKS WITH RINGS

GUIDELINES

- BRING PRODUCTS IN THEIR ORIGINAL CONTAINERS.
- DO NOT MIX OR COMBUSTE PRODUCTS.
- PREPARE SEAL CONTAINERS TO PREVENT LEAKING.
- PLACE CONTAINERS IN THE TRUNK OR BACK OF VEHICLE, AWAY FROM PASSENGERS.

QUESTIONS? CALL JACK RANNEY, LCRA, 1-800-776-5272, EXT. 7651

BEAT THE BARON WASTE

MAKE YOUR COMMUNITY CLEANER AND SAFER

HOUSEHOLD HAZARDOUS WASTE CHECKLIST

HOW MANY HAZARDOUS CHEMICALS ARE IN YOUR HOME? USE THIS CHECKLIST TO FIND OUT.

CAUTION: DO NOT ALLOW CHILDREN TO COMPLETE THIS CHECKLIST UNLESS SUPERVISED BY AN ADULT.
CHILDREN SHOULD NEVER BE ALLOWED TO TOUCH CHEMICAL PRODUCTS OR CONTAINERS.

PRODUCT EXCHANGE CENTER

HOUSEHOLD CLEANING PRODUCTS

- Aerosol sprays _____
- Ammonia _____
- Detergents _____
- Drain cleaners _____
- Floor wax _____
- Furniture polish _____
- Motorbells _____
- Nail polish remover _____
- Oven cleaners _____
- Septic tank cleaners _____
- Spot removers _____
- Toilet bowl cleaners _____
- Tub and tile cleaners _____
- Window cleaners _____

HOUSEHOLD MAINTENANCE AND SUPPLIES

- Artificial dyes _____
- Glue and cement _____
- Household batteries _____
- Lighter fluid _____
- Paints and stains _____
- Photographic chemicals _____
- Stain and varnish removers _____
- Swimming pool chemicals _____
- Thermometers _____
- Tur pentine and paint thinners _____
- Vaseline _____
- Wood sealers _____

AUTOMOTIVE

- Brake fluid _____
- Car and truck batteries _____
- Polish and wax _____
- Motor oil _____
- Tires _____
- Transmission fluid _____

LAWN AND GARDEN

- Fungicides _____
- Herbicides _____
- Insect repellents _____
- Pesticides _____

WHAT SHOULD YOU DO WITH HOUSEHOLD HAZARDOUS WASTE PRODUCTS?

1. Identify them. Look for the following words and phrases on the label - they mean the product may be harmful to people, animals and the environment:
 - Caustic
 - Corrosive
 - Flammable
 - Harmful if swallowed
 - Irritant
 - Oxidizing
 - Poison
 - Reactive
 - Skin irritant
 - Toxic
 - Volatile
 - Warning
 - Wear rubber gloves
2. Follow directions. Always read labels and follow directions carefully.
3. Store in a cool, dry place. Between collection events or trips to the recycling center, keep all hazardous products in their original containers with lids fastened securely. Do not mix, combine or consolidate them.
4. Recycle or take to a designated collection site. Never place hazardous products in your regular trash. Motor oil, brake and transmission fluid, antifreeze and car batteries can be recycled at most service stations.
5. Use environmentally safe products. Use latex paints instead of oil-based paints. Look for the following words on the product label:
 - Biodegradable
 - Contains no phosphorus
 - Environmentally safe
 - Non-corrosive
 - Nontoxic
6. Don't let products go to waste. Buy only what is needed to do the job. If you can't use all of a product, pass it on to a neighbor, friend or community organization that can.

FOR MORE INFORMATION, visit LCRA's Web site at www.lcra.org/community/hhw.html.

Public Awareness

Samples of public awareness media



Public Awareness

Samples of public awareness media

<https://www.fortbendcountytexas.gov/government/departments/county-services/recycling-center-hhw/household-hazardous-waste-disposal>

<http://www.eng.hctx.net/Consultants/Household-Hazardous/Household-Hazardous-Waste>

<https://www.pasadenatexas.gov/341/Household-Hazardous-Material>

<https://www.houstontexas.gov/solidwaste/esc.html>

http://baycitytribune.com/news/article_7eab8bc2-f01a-11e9-bfc6-5b70fdb66e7.html

Public Awareness

Samples of public awareness media

https://www.theeagle.com/news/local/drop-off-hazardous-waste-saturday-in-college-station/article_a2c710bc-6717-11e9-9670-5f12ecc2019b.html

<https://abc13.com/news/how-to-safely-dispose-of-your-hazardous-waste-in-the-houston-area/468821/>

<https://h-gac.com/solid-waste-management/household-hazardous-waste.aspx>

Local Options for Program Manager Education, Training Through Networking

➤ Houston-Galveston Area Planning Council



➤ RCRA/DOT Trainings

➤ 8 Hour HAZWOPER Refresher

➤ 40 Hour HAZWOPER (Additional)

➤ 24 Hour HAZWOPER

➤ Facility Design

➤ Identification of Unknowns

➤ CHMM Prep Course



<https://nahmma.org/index.php>



THANK YOU!
Jack Ranney
Regional HHW Account
Manager
Stericycle Environmental
Solutions, Inc.

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We protect what matters.

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