



Residential Environmental Management: Household Hazardous Waste Collection

Family and Consumer Sciences

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What Are Household Hazardous Wastes?

Many consumer products contain chemicals that if improperly used, stored, or disposed of may be hazardous to human health or the environment. Chemicals in these products become hazardous wastes when they are no longer wanted or needed as household products and are not disposed of properly.

More often than not, people have home and garden products such as cans of paint, pesticides, solvents, household cleaners, and automotive products stored in their homes and garages. These products may be stored for long periods of time simply because people don't know how to dispose of them safely or legally. Unfortunately, such products are frequently washed down drains, poured on the ground, or thrown in the trash, where they ultimately pose risks to human health and/or the environment. Disposing of household chemicals in the trash may cause fires or explode or react in trash collection trucks, often injuring sanitation workers. Household products may be hazardous because they are flammable, poisonous, corrosive, reactive, explosive, or carcinogenic. Our health may be affected by hazardous products through ingestion, through inhaling gases, or by absorption through the skin. Hazardous products may affect the environment by contaminating air, water, and soil. Some chemicals are very slow to biodegrade and can accumulate in food chains.

It is usually not difficult to determine the hazards of specific products. Product labels contain useful information on ingredients, hazards, and proper use. Pesticide labels are legally required to provide information on active ingredients and toxicity. Further information can be obtained by contacting the manufacturer of a product and requesting a Material Safety Data Sheet (MSDS).



Having a community-wide household waste collection event can provide an efficient way to deal with hazardous wastes. To hold a successful household waste collection event, advance planning and organizing are necessary. Allow at least six months lead-time to carry out the following important organizing activities:

1. Contact the Oklahoma Department of Environmental Quality (the agency that regulates hazardous waste disposal) to get important advice for your collection event. For more information, contact your local DEQ office. The state DEQ office can be reached by calling (405) 271-5338.
2. Develop a Request for Proposal (a description of the services you will need) and make contact with potential disposal companies to determine the type and cost of disposal services.
3. Develop a budget and identify funding sources.
4. Identify, contact, and involve all interested and

- potentially interested groups. Some potential partners are Cooperative Extension Educators, city officials, county officials, environmental groups, local river authorities, lake organizations, fire departments, police departments, civic organizations, newspapers, radio and television stations, health groups, local chemical manufacturers, and local businesses.
5. Hold an initial planning meeting with all interested groups. Set an agenda to include the following:
 - Type of collection—periodic collections or ongoing collection (permanent drop-off sites).
 - Approval and financing methods.
 - What materials will be collected (household hazardous wastes only, recyclable only, or both).
 - Public education programs and survey forms for the collection event.
 - Location(s) and date for the collection (consider how traffic will be handled when determining locations).
 - Hiring a licensed hazardous waste firm and contacting recyclers (waste oil, batteries, and usable paint).
 - Sources for volunteers and food and refreshments for volunteers.
 - Regulations (putting together operational plan, notification).
 - Publicity for volunteers.
 - Non-hazardous waste disposal (dumpsters).
 - Plan for managing recyclables if they are going to be collected.

After a general discussion with the entire planning group, the above topics could be approached by committees. These topics are more easily handled by smaller groups. Establish working committees and have volunteers sign up for committee responsibilities. Encourage the committee to be creative with ideas for organizing, publicizing, and financing the project. Work out goals to be met and a timeline to complete these tasks. Try to get each member of the group to complete a task before the next meeting.

6. Select a licensed hazardous waste disposal firm. Enter into a contract with the firm to dispose of collected materials.
7. Identify and select recycling businesses to participate in the event. Agree on services provided and cost or payment for services rendered. Be sure to put recycling agreements in writing.

8. Involve local media as much as possible. This is the best way to get the coverage and promotion needed for the project. Develop press releases and send letters to the editors of local newspapers.
9. Hold follow-up meetings to discuss the progress of each committee and details to make sure that the project is moving ahead on schedule.

Overview of a Collection Event

The public is informed to bring their household hazardous waste to a certain site for collection and proper disposal. The waste is sorted, classified, and packaged by a hazardous waste disposal company. Recyclable items such as waste oil, auto batteries, and paint are reused and recycled. The hazardous waste is taken by the hazardous waste disposal firm to a hazardous waste disposal facility.

Selection of a Date and Location(s)

Select a date that doesn't conflict with other community events. It is difficult to have enough volunteers if the date conflicts with other community-wide events.

Location is also an important factor to consider when planning your collection. The following are important when selecting a site:

- Central location
- Accessibility
- Traffic flow
- Size and configuration

Plan on a staging area with the capability of accommodating 100 cars at a time. The ground surface should preferably be paved. Signs are very important in directing volunteers and participants through the process.

Make sure that the site will be available for several days following the collection to ensure that the hazardous waste contractor has suitable time to properly separate, package, inventory, load, and transport all collected materials.

Using city- or county-owned property may be easier than using private property because this property may involve fewer restrictions.

Public Education and Publicity

Before people will participate, they must first understand that we all contribute to the hazardous waste problem by purchasing, using, and disposing of household products containing hazardous substances. Your



public education program should include these key points:

1. Identify which household products contain hazardous materials and should be brought to the collection. If you are collecting only a limited number of items, such as paints, waste oil, and/or batteries, make this known from the start.
2. Identify environmental and health hazards of improper use and disposal of hazardous products.
3. Provide information on the use of substitute products which do not harm the environment.

Begin your education and publicity activities as soon as possible. Publicize early and widely to gain support for and participation in the project. Utility bill inserts and radio/television/newspaper advertisements provide good methods for distributing information. The first phase of publicity should be education-oriented so that people will know the project is important. A few weeks before the actual collection day, publicize again.

This time emphasize:

- When the event is to occur.
- Where it will take place.
- What to bring and what not to bring.
- How to transport materials safely.
- If there are restrictions on who may participate, this needs to be made clear (i.e. certain neighborhoods, within city limits, etc.).

It is important to let participants know how to safely transport materials to the collection event. Some tips are:

1. Whenever possible, bring materials in their original, resealable containers. This will help the chemists determine the exact chemical make-up of the substance. All materials must be absolutely identified before disposal can occur.
2. Don't mix different products together in one container. Some of them may react violently.
3. If possible, pack containers separately in absorbent material to prevent breakage or leakage.
4. Put materials in your car trunk in sturdy boxes or other containers, away from the driver and any passengers.
5. If a leak or spill occurs on the way to the site, stop the car, wipe up the substance using gloves and open windows to vent fumes. Bring any rags or towels used to absorb a spill to the collection for disposal.
6. There may be a long wait to dispose of these materials at the collection center. Be patient. The contractor and volunteers are working as quickly as possible to remove and identify the materials safely. This may be a good place to distribute educational materials.
7. **For your safety and the safety of others, DO NOT SMOKE at any time you are handling household hazardous waste materials - AT ANY LOCATION!**

Additional education and publicity methods include:

- Make public presentations to schools, churches, and local community groups. Students often teach parents through information learned at school, so bring materials to hand out.
- Printed information—design flyers promoting your project, telling why the collection event should be used.
- Media coverage—utilize local radio, television, and newspaper for promotion and education.
- Be creative! Enlist the help of a local advertising firm, if possible.

Through advance publicity, let participants know that if the product is usable, they should give it to someone who can use it as the label indicates. Encourage the reuse of usable products and the use of less hazardous alternatives.

Legal and Liability Issues

In planning a household hazardous waste collection event, communities should consider several important legal and liability issues, including:

- 1. Service Contract.** A service contract must be developed to protect the sponsoring entity from liability and to ensure safe, quality services. The contract should specify the services, permits, and insurance to be provided by the collection firm, the cost of all services, and provisions for the assumption of liability. The contract should be reviewed by legal counsel and signed by both the sponsoring entity's representative and the collection firm.
- 2. Permits.** Household hazardous wastes are exempt from the Federal Resource Conservation and Recovery Act (RCRA). Private households are not required to comply with the regulations controlling the generation, transport, or disposal of hazardous wastes; however, the collection of such wastes is regulated by the Oklahoma Department of Environmental Quality. Transportation and disposal is regulated by the U.S. Environmental Protection Agency under RCRA, through the Oklahoma Department of Transportation. For the community's protection, the service contract should clearly hold the collection firm liable for complying with all applicable laws and regulations, including obtaining necessary permits and generator I.D. numbers.
- 3. Generator Status.** The service contract should clearly identify who is the "generator of all hazardous wastes it accepts on collection day." The "generator" will be wholly responsible for complying with all state and federal hazardous waste regulations regarding the generation, transport, and disposal of hazardous wastes, including all manifest requirements. The manifest is the document which accompanies a load of hazardous waste from the point of generation (the collection site) through shipment to the point of disposal.
- 4. Liability.** It is important for the sponsoring organization(s) to take the above precautions in order to provide protection against liability. Even though state and federal regulations identify the generator/transporter as the liable party in the event of a spill or accident, a lawsuit against the sponsoring entity is a possibility.
- 5. Emergency Preparations.** A team of trained employees from the collection firm must be on site to

identify, accept, containerize, list, load, and remove from the site all wastes collected. The collection firm should provide all materials and equipment, such as plastic liners for the collection site, absorbent materials, and a fire extinguisher, needed to handle a spill or release of a hazardous substance into the environment. The local fire department and civil defense director should be made aware of your event. The collection company should be responsible for cleaning up a spill at the site and during transport. As a precautionary measure, the local fire department should be either on call or at the site on the day of the collection. It may also be desirable to have a police officer on site in case of emergency or to direct traffic, if necessary.

Data Collection at the Event

Data on your household hazardous waste collection needs to be collected from participants. This is best done by a survey form. Questions asked participants can include:

1. How the participant heard about the collection event. This is to find out the best and most effective method of publicity.
2. If participants would pay fees for disposal. If so, how fees would be collected (fees on utility bills, user fees at collection, etc.)
3. How often this type of service should be available. The survey should be designed to determine the need for this type of event. Data on household hazardous waste which will be disposed and amounts of recyclables collected also need to be compiled.

Alternatives to Holding Entire Household Hazardous Waste Collection Events

Because household hazardous waste collection programs tend to be expensive, smaller communities cannot always afford to hire a collection firm. Some alternatives to holding entire collection events are having a "paint only" collection and/or paint swap, having a "waste oil only" collection, having a "battery only" collection, or having a combination of the above collections.

These collections can be done at a minimum of cost to the community, and in some cases, profits can be made. Volunteers greatly reduce the labor costs for these events.

Paint Collection

Paint will probably be the largest component of any collection program. Because a great deal of it can be reused, contact community groups who can use this paint. Some groups which can use these materials are housing rehabilitation groups, church groups, civic groups, city parks and recreation departments, and anti-graffiti groups. Some programs have used paint can crushers to get all of the paint out of the cans. Contact any group who could use the paint months before your program to ensure that you can get rid of the collected paint. Set up a trading area at the site for participants who need to obtain paints. Some paint companies take usable household paints directly from household hazardous waste collections to be reworked into new paint. Contact local paint dealers for details.

Sheets of heavy-duty plastic should be laid down to protect against spills, and absorbent materials should be available to soak up any spills. Separation of latex and oil-based paints should be made from the beginning of the collection. Cans of latex paint which are completely dried up in the can may be placed in the landfill. Oil-based and enamel-based paints which are unusable may not be placed into the landfill.

Waste Oil Collection

Waste oil is also a large component of a collection event. Waste oil haulers in the area should be contacted prior to the event. Oklahoma Department of Environmental Quality has a listing of waste oil recyclers. In case mixed materials are collected, ask the recycler what other kinds of automotive products are mixed with the waste oil he/she accepts. Waste oil can be poured from the containers brought in by participants into 55-gallon barrels through funnels if tanks are unavailable.

The weather is a factor in draining oil containers. In cool weather, oil becomes thick and pours slowly. A trough where containers can be turned upside down to drain is an excellent option. Containers can remain upside down for a longer period of time and will drain more completely. The trough will then empty into a 55-gallon drum.

If a trough system is not used, funnels can be obtained from auto parts suppliers. The empty oil containers should then be placed in a lined dumpster. The more volunteers, barrels, and funnels you have, the

faster the collection will go. Again, sheets of plastic should be placed before you get started, and absorbent material should be available for spills.

Battery Collection

Automotive batteries can be collected for recycling at collection events. Battery recyclers should be contacted prior to the event to find out where the batteries are ultimately being recycled and if the collector is recovering the materials (as opposed to only acting as a transfer point). The Department of Environmental Quality has a list of battery recyclers. Other good sources of information are local implement and automotive dealers. Small household batteries can also be collected for disposal by a proper method.

Disposal of Non-Hazardous Wastes

Dumpsters should be available for the disposal of cardboard boxes, empty paint cans, empty oil containers, etc. These should be lined with plastic and have an absorbent (for example, vermiculite) between layers to prevent leakage from dumpsters.

Arrangements can be made with scrap metal dealers to collect and transport many metal items. These dealers may pay for this material.

Volunteers

Volunteers will be an important and crucial part of any household hazardous waste collection. General volunteers can provide manpower in the following activities: traffic directions, survey taking, information distribution, and unloading paint, waste oil and batteries from participants' vehicles. They can also separate paints and pour waste oil into barrels. Technical volunteers are those who are employed in the hazardous waste/hazardous materials field or who have had previous experience with the program. Technical volunteers may unload chemicals from participants vehicles under



It is important as organizers for you to:

1. Contact the local DEQ office and include a representative on the planning committee.
2. Identify and hire a hazardous waste disposal contractor.
3. Insure that all federal, state, and local laws and regulations are obeyed.
4. Identify and enter into agreements with recyclers of such items as oil, batteries, white goods, and metal.
5. Determine and arrange financial aspects of the collection event.
6. Find sources for volunteers. These may include Association for Family and Community Education groups, Master Gardeners, 4-H groups, Sierra Club or other local environmental groups, League of Women Voters, governmental agencies, civic organizations, and major employers in the area. It is important to contact as many organizations as soon as possible to both involve them in the organization of the event and to recruit volunteers.
7. Provide training for your volunteers. General training, including what the site layout is, safety and health precautions, and how to unload vehicles, should be provided.
8. Provide refreshments and places to rest away from the collection area for your volunteers. Thank you letters, t-shirts, and other forms of recognition are good ways of showing your appreciation.

supervision of the collection firm's chemists. It is important to remember that any waste collected that is not accepted by the collection firm becomes the property of the sponsoring entity. It may be best to let only the collection firm's employees unload chemicals.

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