Collection day for hazardous household waste at Killingly, Connecticut.

POISONS IN YOUR HOME: A DISPOSAL DILEMMA

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ONE FALL Sunday several years ago, I was visiting my mother, who lives about eighty miles north of New York City. After tidying up her vegetable garden for the season, I decided to clean the tool shed in back of her garage. The first thing to go would be the sack of funny-smelling powder that had been sitting in one corner for as long as I could remember. I bent down and made out the faded label with some alarm: granulated chlordane, a pesticide used to kill termites and ants. I knew from news reports that it persisted in the environment for a long time and was a suspected carcinogen. How was I supposed to get rid of it?

I visited the local garden center, hoping that the labels on chlordane and other pesticides would provide disposal information. They advised, "Bury or discard in a safe place." (Chlordane has since been banned in New York State.) The next week, I called the county Cooperative Extension, which referred me to an office of the New York State Department of Environmental Conservation. They could only suggest the expensive option of hiring a private disposal firm. The U.S. Environmental Protection Agency doesn't regulate small quantities of pesticides and other chemicals found around the home.

As I began to investigate further, I discovered that people all over the country have been asking their local officials questions about the safe disposal of a long list of household chemicals. To address these concerns, a number of communities—independently of one another—have begun holding collection days for hazardous household waste. Since the first program was held, in 1981, word of their existence has spread rapidly through a grassroots network, and it is starting to filter up to state governments, the chemical industry, and EPA.

A number of household chemicals are acutely toxic and may accidentally poison children or animals. Because many are explosive or give off deadly fumes when ignited, unsuspected chemical caches also endanger firefighters and rescue workers. Put out with the trash, household chemicals may harm garbage collectors and landfill operators.

But how much of a hazard do household chemicals, when improperly discarded, actually pose to the environment? After all, the hazardous substances thrown away by individuals would make a very small garbage heap next to the mountains of waste generated by industry.

There are no clear answers to this


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ROSE DUST
KILLS ROSE PESTS
PREVENTS BLACK
SPOT & MILDEW
Controls
Certain Insects
and Diseases
of Vegetables
DUST
CONTAINS SEVIN* AND ZINEB

Drums filled with absorbent material are packed with unwanted household chemicals at Sharon, Connecticut.

question. Leaking municipal landfills make up a significant proportion of Superfund cleanup sites, for example, but it is hard to know whether their toxic loads come from commercial or household sources.

Only a few studies have been conducted. In 1986 the Puget Sound Council of Governments analyzed the solid waste system of Seattle–King County, Washington, and estimated that each year 11,000 tons of unregulated hazardous waste went into landfills; almost half of that was residential trash. On New York's Long Island, which has an easily infiltrated aquifer, researchers have found unacceptably high concentrations of potentially harmful organic chemicals in a number of wells. They suspect that household use of solvents and degreasers—and their disposal via sanitary landfills and septic systems—is a significant cause. A 1979 study by the Nassau County Department of Health estimated that each year 83,000 gallons of organic chemicals from household products end up in the county's groundwater.

And an EPA study of Florida's Biscayne Aquifer, which lies only a few feet below the surface of Dade County, found low to moderate concentrations of synthetic chemicals dispersed over large areas, with no specific plumes of contamination. This led a grand jury to conclude in 1983 that "individual and invisible, seemingly minute, acts of contamination such as a single can of paint poured in a single backyard, when multiplied thousands of times over in a community such as ours, in the last analysis pose the greatest threat to our water supply."

BECAUSE OF their dependence on a vulnerable aquifer, the Long Island counties of Nassau and Suffolk have become increasingly vigilant in fighting pollution. In April 1985, to see what they were doing about household toxics, I drove out to observe the Island's first collection day, held in Sayville by the Town of Islip.

Inside the garage of the Sayville fire station, I found Ann Anderson, the volunteer coordinator of a regional committee called STOP (Stop Throwing Out Pollutants), which works with towns throughout Long Island to organize cleanup days. She and two other volunteers, Jack Foehrenbach of Great South Bay Audubon Society and Frank Smith from Islip's Department of Environmental Control, had spent six months planning the event.

The company hired by the town to handle and dispose of the wastes, Chemical Pollution Control of Bayshore, Long Island, had spread the floor of one of the garage bays with black plastic, set out fifty-five-gallon drums, and barricaded the area with a plastic-covered table for examining the products people brought in. A chemist and two chemical handlers, wearing gloves and protective garments that looked like space suits, carefully identified, sorted, and logged in the wastes. Then they placed them into drums, pouring a sand-like absorbent material around bottles of liquids to soak up any spills.

After an early-morning rush, people trickled in steadily. A middle-aged woman who brought in a container of DDT said, "I've been wondering for years what to do with this." A farm couple came in with chlordane, then returned a half-hour later with more stuff, including Malathion. People carried in boxes of rusted cans and dusty bottles: lead-based paint, lacquer thinner, antifreeze, 2,4,5-T, rose "dust," wood preservative.

According to federal regulations for transporting toxic wastes, everything has to be sorted by type of chemical and packed into different drums, so that chemicals don't mix into a toxic soup. By the end of the day, ninety Islip residents had filled twenty drums

with their hazardous garbage.

One of the goals set by the STOP committee when it was formed three years ago was to encourage municipalities to sponsor such cleanup days. Back then, Jack Foehrenbach volunteered to see whether Islip would hold the first collection.

After Islip's town board voted funds (budgeting $15,000, of which $10,000 was used for two collection days at different sites), the next step was to choose a disposal company and negotiate the complex contract. Then there was the paperwork necessary to satisfy federal and state laws regulating toxic materials.

Under the federal Resource Conservation and Recovery Act, documentation must accompany all hazardous waste "from cradle to grave." Although household quantities are exempt from the law's requirements, EPA recommends that toxic material collected at a cleanup event be treated as if it were a regulated hazardous waste. This includes using a licensed transporter and storage facility, as well as filing a manifest, the form that must accompany hazardous waste on its lifelong journey.

Household hazardous waste programs do fall under the Comprehensive Environmental Response, Compensation, and Liability Act—better known as Superfund—which holds that a hazardous waste generator can be held financially liable if a site to which it has sent its wastes requires cleaning up. The specter of liability has been an obstacle to setting up programs to handle household toxics. Although EPA officials have said it is unlikely that the agency would go after the sponsors of a cleanup, strictly speaking the town could be required to pay for part of a Superfund cleanup twenty years down the line.

"And a town attorney's job is to protect the town from anything like that," says Ann Anderson. "The approach we take is that you are responsible and liable for those wastes whether you collect them or not. If you don't, they're going to your landfill and ending up in a plume underneath it. So you're polluting your groundwater, and it's going to require remediation at some point." Anderson adds, "Sometimes that flies, and sometimes it doesn't."

I asked her how she thought Long Island should handle household toxic waste in the long run. Did these once-a-year programs really meet the need?

"It's not too unrealistic to hope that at some point each municipality will

have a permanent facility where homeowners could bring their wastes on a given date," she says. "But I think the most important way to address this problem is to educate people to read labels, to be aware of what components are in commercial products and that there *is* a disposal problem, and to buy only what they need and use it up. I think eventually you would see fewer products needing disposal."

Sound advice, but there is a built-in hurdle here. The consumer can seldom buy only what is needed to do the job. A homeowner who needs a "wasp killer" to eradicate a small colony over the back door finds that the available product amounts to almost a lifetime supply of the stuff. The container, still nearly full after the job is done, then must be kept in a safe place for possible use in the distant future.

PROGRAMS such as the ones on Long Island seem to be springing up everywhere. As of 1983, communities in seven states had held collections; three years later, that number had grown to thirty-two, according to Dana Duxbury, a volunteer waste expert with the Massachusetts League of Women Voters. "It's just amazing how popular these programs are," she points out. Using the league's loose nationwide network, Duxbury has been responsible for generating interest in collection days in Massachusetts and all around the country. Now at the Center for Environmental Management at Tufts University, she organized a conference in November 1986 that brought together, for the first time, most of the people involved in the issue throughout the nation.

As of now, though, there is no coordinated national program, and communities have often found themselves reinventing the wheel. Expense is another problem. Costs for a single collection day range from $5,000 to more than $100,000 (disposal charges are per barrel).

Towns also must ponder how to dispose of the waste they collect. Experts consider high-temperature incineration the safest way to get rid of many toxic chemicals, but it can cost more than three times as much as landfilling. Communities face a dilemma: Do they minimize expenses or do what's best for the environment? Increasingly they are seeking alternatives, such as neutralization and recycling.

All this community ferment has started to reach the state level. As of 1986 nineteen states had developed some kind of program for disposal of household toxics. Several, including Minnesota, Wisconsin, and Connecticut, have funded pilot collection programs and studies and issued guidelines. Others have provided support through state environmental agencies. Some states have passed or are considering more far-reaching legislation:

✓ California has been in the vanguard of household hazardous waste collection; since 1982 more than fifty communities have sponsored cleanup days, and many now hold them regularly. In January 1987 a state law took effect that helps local governments set up collection centers and establishes a public information program and a school curriculum. Industry opposition killed the original bill's most controversial clause, which would have required specific disposal information on the labels of all products containing toxic chemicals.

✓ In 1985 the State of Washington enacted two bills that included provisions for household toxics disposal. One gave local governments five years in which to come up with plans for managing small quantities of hazardous waste from all sources; both direct the Department of Ecology to assist in this process and to provide information to the public on the safe use of products with hazardous components.

✓ In Florida, unlike most other states, household chemical collections originated at the state, not the local, level. The program is part of a 1983 law designed to protect the fragile aquifers that supply more than 90 percent of Florida's water. The state contracted with a waste hauler to run a mobile facility to hold at least one collection day in every county. The collection days, known as Amnesty Days, serve both small businesses and individuals. After 1986 each county is supposed to develop its own facility for handling quantities of hazardous waste that fall under the federal regulatory limit.

As the issue of household hazardous waste disposal has reached the state legislatures, industry groups have begun to take notice. The Chemical Specialties Manufacturers Association, which represents the household products industry, opposes state legislation, especially the labeling provisions. The association feels it would be difficult to determine which of thousands of products fall under these laws.

"We certainly would not oppose the voluntary collection days that are set up in communities," says association president Ralph Engel. "But we believe it's more appropriate for the consumer to dispose of waste normally, because then it goes in small quantities to sanitary landfills, where it is biologically decomposed and doesn't present a hazard."

Yet among some segments of the chemical industry, there is active support for household hazardous waste collections, and several large companies, including Dow, have sponsored their own cleanup days.

WHAT will be the final impact of all these programs? It is clear that more research needs to be done. Although household hazardous chemicals are not covered by federal law, EPA has started to look into the disposal question. As part of a broader mandate to develop new criteria for operating municipal landfills, the agency did a study to define the hazardous constituents of household trash. It endorsed the collection programs but did not determine the effects they are having. Several studies now being conducted around the country may eventually shed more light on these questions.

Nearly everyone I talked to agreed that the major value of household hazardous waste collections is in educating the public. Says Gerald Boese of Washington's Department of Ecology, who was instrumental in starting the state's program, "I think they are worth doing if only because they make people realize that we're all generators of hazardous waste; we all need to be responsible. It also gives a better appreciation for industry's problems. That's probably a good thing in the long run."

My mother finally got the chlordane out of her garage, after Dutchess County, where she lives, postponed its first cleanup from spring to fall, and then to spring again. I had been uneasy about the chlordane's remaining in the corner, but I hadn't much liked the idea of sending it to a landfill in someone else's backyard. At least its presence served a purpose: It was a reminder of how little thought we've given to the dark side of many products that make our lives easier.