



## Your Toxic Trash

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Hello, I'm Ed Begley, Jr. Did you know that you're probably part of the toxic waste problem in America? Most Americans are. And they can easily be part of the solution.

Every year, American homeowners toss a million tons of hazardous waste into our household garbage. Get ready to take an environmental quiz about what you should do with paint and oil and other types of toxic trash.

People throw out all sorts of household chemicals. But even household products can cause dangerous reactions in the garbage. They can also cause tragic environmental effects.

Many cities now collect and recycle hazardous household waste. In the next half hour we'll be testing your knowledge about Your Toxic Trash.

Announcer: Major funding for this program is provided by American Airlines. American Airlines, a major commitment to the environment. Additional funding is provided by Phillips Petroleum, exploring solutions for today, tomorrow and beyond. That's what it means to be the performance company. And by Sears. For the families Sears serves, and the world we all share, Sears proudly supports this program that encourages the three "Rs": Reduce, Reuse, and Recycle.

Begley: We live in an age of chemical convenience. There are tens of thousands of household products. Paints and polish and poison for bugs, there's a do-it-yourself product for just about everything. The problem is that people throw away unused portions of household chemicals.

If you sift through household trash, like these students do at the University of Arizona, you'll find products that contain small amounts of dangerous chemicals.

Students: It's disinfectant. And it's plastic. And for special indicators put it has a warning label, it's toxic.

Begley: The "Garbage Project" as it's known, has been sorting samples of trash for 20 years.

William Rathje: When we started the garbage project in 1973, we didn't have a category for hazardous waste. We never even thought about hazardous waste in household refuse. And then we started to realize that households threw out unused pesticides, herbicides, fertilizers, paints, stains, varnishes, and we suddenly realized that every household was a small Times Beach and Love Canal.

Begley: Is it legal to throw away hazardous chemicals? Well, that's where we begin the toxic trash quiz.

Begley: Here's question number one. True or False? Federal law allows homeowners to throw away the same chemicals that factories must send to special hazardous waste facilities. The answer is true.

The U.S. Environmental Protection Agency does not regulate household trash because the rules would be too difficult to enforce.

Something is considered to be household hazardous waste if it fits into one of four general categories. Flammable waste, of course, catches fire. Toxic waste is something that's poisonous. Reactive waste causes dangerous chemical reactions with other things in the trash. And corrosive waste eats away at metal containers and irritates your skin and eyes.

Less than one-percent of household garbage is considered to be hazardous waste. But nationwide, that one-percent adds up to about a million tons of toxic trash every year.

Rathje: The households generate more hazardous waste, or more waste with toxic hazardous constituents than all of the commercial establishments put together.

Carl Kuhn Sr.: I've been doing this for 33 years and I've seen more hazardous waste out there than you can imagine.

Begley: Household hazardous waste creates a real danger for garbage collectors. One of the most dramatic accidents in America happened to Carl Kuhn in Quincy Massachusetts in 1985.

Kuhn: We were throwing rubbish in the back of the truck and we started getting a lot of smoke and everything in the back of the truck and the men couldn't breathe and then the liquid came out and got all over me and got on my clothes.

Police Officer: The wind's starting to pick up now. Over here.

Begley: The incident wound up on the evening news. Police evacuated a dozen homes because of the fumes. Eight people went to the hospital. Fire-fighters had to search through the garbage for clues.

Kuhn: They had a talk with the elderly woman that had cleaned out her cellar and she said she had thrown out chemicals that her husband used to use in the garden as long as 40 years ago. When the creosote mixed with the arsenic that you know it created all the fumes and uh they had to dump the load right in the street.

Begley: Many products have warning labels on the back. For example, cleaners with ammonia warn you not to mix them with a product containing chlorine bleach. But in the trash, you can get some unpredictable combinations.

Here's quiz question number two: Which of these chemicals catch fire if mixed together in the trash? Pool chlorine and car brake fluid? Ammonia and sun tan lotion? Or charcoal lighter and bleach? The answer is pool chlorine and brake fluid.

To see just how dangerous pool chlorine can be, we arranged a laboratory demonstration.

William Lester Jr.: Okay, I'm now going to pour the pool chlorine in. We'll take a sizable amount to establish what we want to have happen here.

William Lester is a chemistry professor at University of California at Berkeley.

Lester: Okay now I'm going to pour some brake fluid, small amount on to the tray and see what the reaction is of the two of these items.

This experiment was performed under laboratory conditions with safety equipment nearby. Don't try this at home.

Lester: We're now going to do another experiment. We're going to take pool chlorine and mix it with a soft drink and see what this reaction turns out to be. Now think about that. Pool chlorine combined with a soft drink we might purchase and possibly empty half way and then pitch it away and should it happen to come in contact with pool chlorine. What we'll see is that something does happen.

Begley: This reaction released a cloud of deadly chlorine gas.

This experiment was performed in a laboratory and should not be tried at home.

Lester: I think in many instances people think they do understand what the hazards are and all too often they don't. So it'll be very important to pay attention to this to see what kinds of consequences can arise when people are careless in terms of disposal.

Begley: There's a long list of things that experts call household hazardous waste. It includes just about everything you put in your car, like gasoline and oil and anti-freeze. And things you use to fix up the home and garden, like paint and glue and pesticides. The list also includes things you might not think of, like oven cleaner and hobby chemicals, flea powder for your dog, even nail polish and some types of prescription medicine.

Begley: So far, we've been talking about the safety problems with household hazardous waste. That's not the only problem. Your toxic trash can hurt the environment.

Delbert Gallego: Everybody throws anything out here you know. Just take it to the landfill and dump it, you know. Their worry is gone once it hits the landfill and then we have to come across the stuff.

Begley: Quiz question three: What's the biggest source of lead in U.S. landfills? Cans of lead-based paint? Old water pipes and radiators? Car batteries? Or Newspapers? The answer is C, car batteries. But this wasn't always the correct answer.

Newspapers used to be the big source of lead because of the lead in black newspaper ink. Publishers stopped using lead in 1975 so now the correct answer is car batteries. They account for more than half the lead in U.S. landfills.

William Rathje: This is modern archeology, you have dirt, you have shovels, you've got sampling units.

Begley: The University of Arizona Garbage Project has been digging deep inside America's landfills to learn what happens to trash after it's buried.

Rathje: Once the stuff is in a landfill, especially if it's been there 5 or 10 or 20 or 30 years, the container that it's in has rusted open or broken open or popped open. So most of the fluids, the materials themselves, are gone.

Begley: The liquids then mix with rainwater and sink to the bottom of the landfill, forming a toxic soup called leachate.

Leachate can poison local drinking water if it gets through small cracks in the landfill liner.

William Rathje: We shouldn't be too concerned for most landfills that are kept dry. But if you do get water percolating through them it's ungodly expensive to decontaminate it and I'm not even sure that it's possible.

Begley: There are competing theories about the dangers of different types of household hazardous waste. Experts agree that used motor oil and paint thinner do not belong in landfills. But manufacturers of pesticides and home cleaners say their products pose no disposal threat.

Ralph Engel: Our products are a very small percent of, our products being household consumer products, are a very, very small percent of America's trash.

Begley: The home chemical industry calls household hazardous waste the "little problem in America" because it's less than one percent of America's trash.

Engel: That's very small numbers that you're dispersing throughout the landfills throughout the country. And indeed, not affecting the ground water through leachate.

Dana Duxbury: Household hazardous waste is one percent of the weight of the municipal solid waste stream. But it is a large percent of the toxicity of the municipal solid waste stream. And toxicity is what will have an environmental impact and a public health impact. And that is the reason why people are concerned.

Begley: Dana Duxbury is a biologist. From her office in Andover, Massachusetts, she has sparked a national movement to collect and recycle household hazardous waste.

Dana Duxbury: When you look at oven cleaners and drain cleaners, there are cautionary words on these products. I mean, if it's a concern when you use it, one might think that it could be also a concern when you dispose of it.

Begley: Scientists like Duxbury point to the Exxon Valdez oil spill in Alaska, to demonstrate that household hazardous waste is not a little problem.

Quiz question number four: True or False. More used motor oil is dumped on the ground, tossed into landfills and poured into sewers every year than was released during the Exxon Valdez spill.

It's true. Do-it-yourself mechanics dump 94-million gallons of oil every year--nearly nine times the amount spilled by the Exxon Valdez.

David Finch III: I used to throw it on top of weeds and around the edge of fences to keep all the grass down, but you don't do that anymore.

There could be a little bit of lawnmower oil in there too, that's probably what it is.

Begley: Most people had no choice for their used motor oil until stores like Chief Auto Parts in Dallas developed programs to handle it properly.

Kenny Cason: We started the program, really, for two reasons. One was we did see on the horizon legislation that could someday require that any retailer that sold oil had to have a program to bring it back. And one of the things that we felt very strong about was that people would not recycle oil if it was not easy. And since we had convenience stores and we had so many of them, they could easily come in and just drop it off. It wouldn't be a hassle.

Begley: In many cities, doing the right thing with toxic trash can be a big hassle.

Here's question five: What would you do if you were Steve Cleghorn, who also lives near Dallas?

Steve Cleghorn: We just bought this boat about a week ago and the gasoline that's in it has been sitting in there for about a year. And gasoline breaks down, you don't want to run it back through a motor again. So I'm having to drain the gasoline. And my problem was what to do with the gasoline once I got it drained.

Begley: What should you do with old gasoline? Mix it with kerosene and use it in camping stoves? Dilute each gallon of gas with 10 gallons of water and pour it down the sewer? Or pour the gas onto concrete and allow it to evaporate?

Ha! Gotcha! This is a trick question, sorry. The answer is actually none of the above. All these choices are dangerous.

So, what should Steve Cleghorn do? He called a service station for advice.

Cleghorn: And they said just take it out and dump it somewhere, just kill some grass. but I don't know, I think it'd kill a lot more than grass if everybody started doing it.

Begley: Cleghorn kept calling for advice and finally found the answer. He drove 40-miles to a company called HEAT, which converts industrial waste into fuel, and accepts flammable household waste.

Karna Nilsson: We're just doing kind of a community service to hopefully keep people from putting anything into the environment that could cause any problems later on in the future.

Paul Dang: Right now what we're doing, we check the pH of the material to see if it's corrosive or not, because we cannot take corrosive material. It indicates that this is neutral so we can take this material.

Begley: Steve Cleghorn's old gasoline was mixed with other recycled fuel and burned at a cement kiln.

Some communities have made it easy to safely dispose of all types of household hazardous waste. This is Tucson, where once a month, people can drop off hazardous waste at selected fire stations.

A.J. Puetz: My father-in-law passed away about three weeks ago and we're cleaning out his workshop. And he stored everything, saved everything. So we need to get rid of the toxic stuff.

Begley: More than 200 cars pass through this site on a typical Saturday morning.

Woman: Want these? Just batteries? Just batteries.

Manuel Telles: Environmental hazards have to be disposed of properly, so we're taking care of it.

Begley: Tucson brings the waste to a central processing station. Here, it's prepared for recycling or proper disposal.

Amy Schumann: It's amazing what people will keep in their homes, what you'll find. We used to use, people used to use mercury to clean out their gun barrels, to get the lead out of gun barrels. They started bringing mercury in to us that they just kept there in their gun cleaning case.

Jim Santino: Hazardous industrial materials wind up in the home. And you don't think of this right away. You think of people bringing in paints and maybe an occasional chemistry set, but industrial materials wind up in the home and as a result they wind up here.

Begley: There's a growing national effort to keep hazardous waste out of America's trash. Several states have banned things like oil and paint and batteries from landfills.

In Seattle, officials are even worried about hazardous waste in the city sewers.

David Gavlin: A single household dumping something in their toilet or down the drain--probably we're not going to see that effect. But in our system we have half a million households and if everyone of those households dumped a cup of paint thinner down the drain we'd see 37-thousand gallons of a toxic organic chlorinated organic chemical come through our treatment plant.

Begley: To solve the problem, King County, Washington built America's first household hazardous wastemobile. It moves to a new site in suburban Seattle every two weeks. People can drop off their waste, and learn about using non-toxic products.

Henry Draper Jr.: We are working not only to provide a convenient collection alternative to people, but also to educate them about the choices that they make.

Begley: The federal government encourages programs like these, but is leaving the work up to individual communities.

Tracy Bone: Traditionally solid waste issues have been solved at the state and local level, they always have been. Indeed, these local governments have the best idea what the problems are in their communities and how best to solve them.

Begley: However, different communities are developing different rules about household hazardous waste.

Ralph Engel: And when you have to label for disposal in state A different than state B, different than state C,D,E and F, it doesn't take long before you can't really effectively deal in interstate commerce. And that has happened.

Begley: The idea behind household hazardous waste collection is to recycle as much toxic trash as possible. But not everything that people bring in can be recycled.

That brings us to quiz question six: Can these products be recycled? Yes or No? Household batteries, car batteries, auto antifreeze, pesticides and toilet bowl cleaner. Car batteries and anti freeze can be recycled. But most types of household batteries, pesticides, and home cleaners can not.

Dana Duxbury: Most of the materials that are being collected today are being reused or recycled. A great deal is being sent to be fuel blended and burnt as a source of fuel. Some of it is being sent to hazardous waste treatment facilities, waste water treatment or hazardous waste incineration. And less than five percent is being actually sent to a hazardous waste landfill, and that's the material that you can't do anything else with.

Begley: About half the waste that people bring in is paint. And it creates special problems.

Quiz question number seven: What should you do with cans of old paint?  
Allow the paint to harden and place it in the trash? Mix the paint together and use it as primer?  
Donate the paint to a theater group or charity? Or bring the paint to a household hazardous waste center? B, C and D are all correct.

Finding another use for the paint around your home is the best choice of all. Donating it to someone who can use it is also a good option.

Many people bring old paint to household hazardous waste centers for recycling.  
But it turns out that bulking old paint together gives you a product that most people won't buy.

Paint sorters: This is interior latex.

Begley: A company near Boston is trying to solve that.

Scott Herbert: We want the product in its original containers. We don't want people bulking it on site. If you take it all on site, dump it all into a 55 gallon drum, what you get is a gray utility paint, whether it's latex or oil base. The market value of that type of product, and the market itself, is very limited.

Begley: The Green Paint Company has turned household hazardous waste into an economic opportunity. The company gets paid to haul away paint from collection programs in the original cans.

With these free raw materials, the company can afford the labor to blend a more marketable variety of recycled paint.

Herbert: Many paint manufacturers, especially the larger ones these days are automated. To take something into their factory and reprocess it would be contrary really to their current procedure. It really is a different type of business, when you get into recycling.

Begley: Some companies are removing dangerous elements from their products, to make them safe for disposal. For example, many types of batteries no longer contain mercury.

Environmental groups are developing shopping lists of these less toxic household products.

Philip Dickey: The consumer has basically been provided with a chemical for every purpose and I think we've gotten a bit lazy.

Begley: Philip Dickey is a PhD nuclear physicist, who works for the Washington Toxics Coalition in Seattle. He's using his technical training to investigate household products, and suggest less-toxic alternatives.

Dickey: With some of these alternatives, if you do your cleaning more often you can use a less toxic product and I think the total time that you spend over a period of months may not be that much greater, but perhaps you have to keep up with things a little bit more.

Begley: There are dozens of booklets and pamphlets with nontoxic household suggestions. As well, many products claim to be safe to use and discard.

Which brings us to our final quiz question. What does the word "nontoxic" on a label mean? The product contains no toxic ingredients? The product does not harm the environment? The product does not harm people when used as directed? Or all of the above.

The answer is C, It won't harm people when used as directed. Some products that say nontoxic on the label actually contain toxic chemicals, but in small amounts that won't hurt people during normal use.

Dickey: I think consumers are understandably confused by products that have labels saying nontoxic, natural, biodegradable. Some manufacturers are beginning to put logos on their products that say "Earth Friendly" or something of that sort. And some of these logos look fairly official and I think it's a bit confusing to the consumer to make these decisions.

Begley: There are plenty of home-spun alternatives to using toxic products, but some of the ideas are a bit far fetched.

Dickey: One I came across on a list was polishing your shoes with banana peels. I tried that, both sides, and it didn't work.

Tracy Bone: I have tried some of the alternatives, even the alternatives listed by the EPA in some of its documents. Some of them have worked for me, some of them have not. And that is the only advice I can give to people right now, is try them yourself and if they work, great. But they do not always work.

Begley: And that's where we close the toxic trash quiz. The best advice seems to be: Buy a non-hazardous product if you can. Buy only what you need to do the job. Read the labels. Use what you buy, or give the remainder to someone who can use it. And if you must throw out something that's toxic, do so in a responsible way.

A lot of environmental problems seem overwhelming, but this is one problem we can solve if everyone does their part. There's no place where you have more control of the environment, than your home.

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**(END OF PROGRAM)**