

HOUSEHOLD HAZARDOUS WASTE

ENVIRONMENTAL HEALTH ISSUE PROFILE

Community Action for a Renewed Environment (CARE)
Environmental Sustainability for the Salina Community

Issue: Exposure to toxins from improper disposal of household hazardous wastes (HHW)

Background:

Leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients are considered to be “household hazardous waste” or HHW. Products such as paints, cleaners, oils, batteries, fluorescent light bulbs, electronics, and pesticides contain these types of hazardous ingredients and require special care when you dispose of them. Improper disposal of HHW can include pouring them down sanitary drains (sink or toilets), or onto the ground or into storm sewers, or putting them out with the trash. Improper disposal of these wastes can pollute the environment and pose a threat to human health.

According to the EPA, consumer electronics such as televisions and other video equipment, computers, assorted peripherals, audio equipment, and phones make up almost 2% of the municipal solid waste stream. According to the EPA, in 2007, approximately 18% of discarded televisions and computer products were collected for recycling. Cell phones were recycled at the rate of 10%.

Three-fourths of all the cadmium used is in batteries. When batteries are improperly disposed of by dumping them in the landfill or on private property, they can cause runoff which gets into the groundwater. Runoff which contains cadmium in levels of 0.005 mg/l and above can cause kidney damage. Manufacturers are reducing the amount of cadmium used in batteries due to its toxicity.

Paints contain volatile organic compounds (VOC). When paints are improperly disposed of by dumping them in the landfill or on private property, they can cause runoff which gets into the groundwater. VOCs are a known carcinogen.

Fluorescent bulbs contain mercury. When a bulb is broken, the mercury vaporizes. If inhaled, mercury accumulates in the body. The allowable levels are 0.002 mg/l. Levels greater than the allowable level can cause kidney damage.

Electronics contain lead, mercury, brominated flame retardants, and cadmium. Lead is a toxic metal that can be found in the soil, our drinking water, the air, and dust. Over exposure to lead can cause a range of health effects including behavioral problems, learning disabilities, seizures, and even death.

Standards:

The Resource Conservation and Recovery Act (RCRA) is the public law that creates the framework for proper management of hazardous and non-hazardous waste. Both federal and Kansas laws appear to deal with HHW only when it has reached a collection site. There are no laws mandating disposal of hazardous household waste at approved HHW facilities by citizens.

Many existing, older landfills do not have leachate or methane gas collection systems and represent significant sources of groundwater pollution and methane gas emissions in communities. Today’s standards require construction of “engineered” landfills that are designed and built with materials to catch and treat all leachates generated from the wastes; some also capture methane gas. However,

even engineered landfills may eventually pose a risk to nearby groundwater supplies.

Community-specific indicators:

What does the data say?

According to Salina water department data, there are more than 18,000 households in Salina. (This does not include commercial or industrial use.) The Salina Hazardous Waste Facility 2008 reports that 88,750 pounds of HHW was collected from 3,364 people with an average of 26 pounds per dropoff visit; 31% of the wastes was reusable paint and 3.5% was from batteries; 69% of the HHW collected was reused (31%) or recycled (38%).

In 2009, the city of Salina collected 2,474 pieces of electronic waste that included desktop computers, CPUs, CRT monitors, LCD monitors, CRT televisions, laptops, keyboard and mouse devices, printer/fax/scanner, cell phones, PDAs, VCRs, and DVDs.

Who is affected?

The entire community can be affected by improperly disposed HHW—and this can potentially create toxic exposures to children, pets, and wildlife if disposed in yards or sewers.

How is the community affected?

Improperly disposed of household hazardous waste is a potential risk because contaminated landfill runoff can get into the drinking water or into the air we breathe.

What are the environmental conditions?

Water contamination caused by improper HHW disposal can affect the city's groundwater supplies and surface waters that reach rivers and streams used by some communities for their drinking water supplies. In addition, some types of hazardous wastes can combine with other wastes (such as solvents and fertilizers)—in your trash or in the landfill—to cause potentially explosive combinations that could hurt or kill anyone handling those wastes.

What are the contributing factors and behaviors of the community?

Salina has an HHW collection site and a very beneficial HHW program; however, the Salina collection site is underutilized by the community. Items accepted at the site include household cleaners, pesticides, paint and paint products, antifreeze, engine and transmission oil, brake fluid, fluorescent light bulbs, and similar products.

How does the community protect itself?

Dispose of household hazardous waste properly through approved collection sites. Citizens can reduce their need for products that contain corrosive, toxic, ignitable, or reactive ingredients by identifying a less hazardous material, by buying only what is needed so none will be left over to dispose, or by changing how you do things to eliminate the need for a hazardous product.

Data sources:

Where did the data come from?

EPA Web site, KDHE Web site, city of Salina Web site, Salina Household Hazardous Waste facility report.

Age of data?

1-10 years

Recommendations/suggested actions:

- Expand hours for drop offs.
- Add more drop off locations.
- Increase education.

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