Protecting Butte Together

Government agencies, local business and environmental groups are working together to educate the public on the need to minimize toxic products and how to handle them safely.

Inside:

Hazardous household items post a danger to you, the environment and the workers who manage them. Learn why they need to be thoughtfully and properly handled!

CPSC California Product Stewardship Council SM

Butte County PUBLIC WORKS

A Special Advertising Supplement

The Dangers of Hazardous Waste

Hazardous household products can endanger the land and residents of Butte County

BY MATT CRAGGS

Steve Rodowick is on the front lines when it comes to protecting Butte County and its residents from the damaging consequences of hazardous waste. He's the recycling coordinator for Butte County Public Works, so he knows about waste — knows that we create a lot of it and that some of it is downright hazardous. In fact, **hazardous waste can threaten the safety and health of residents, disposal workers and our environment.**

Rodowick defines hazardous waste as "anything that is toxic, flammable, radioactive or caustic. Anything that can cause harm to human, animal or plant life." That includes household hazardous waste (HHW) items such as batteries, furniture polish, pesticides, pool chemicals and e-waste, like computers, televisions and cellphones.

Although HHW drop-off facilities have been set up to collect this waste, too many people simply throw these dangerous products in with their general trash or recycling, where it heads to the landfill. There, materials can have a reaction or leach through a landfill's lining into surrounding soil and waterways. The consequences can be serious.

"Oil dumped down a storm drain flows to a local waterway, and if a gallon of oil entered the water treatment facility, it contaminates a million gallons of water," Rodowick said.

Improperly disposing of HHW can also threaten the safety of city and county workers.

Fires can easily start during the transportation and processing portions of the general waste and recycling streams, which were not designed to safely handle HHW.

"Invariably, over the course of a year, we get pool chemicals that react while they're in the waste truck and start smoking," Rodowick said. "And, of course, batteries — especially lithium-ion batteries — when thrown in the trash, get jostled and can cause fires."

Another common culprit, Rodowick said, are one-pound propane tanks containing residual gas, which can explode when the trucks compact the trash.

Waste facility fires — which are common because of improperly disposed of items — can cause millions of dollars in damage or loss of insurance, Rodowick said, and can threaten an entire region's waste disposal services.

To lessen the danger, he advises Butte County residents to avoid products with hazardous waste labels, donate items such as building materials and fertilizers to local nonprofits rather than throw them away, and always dispose of HHW properly (see page 8 for where to take it).

These few, simple steps could make toxic waste less noxious for the land and residents of Butte County.

> **"Batteries ... have a tendency to discharge and cause fires."**
>
> STEVE RODOWICK
> Recycling coordinator, Butte County Public Works

Butte County protects its soil, groundwater and workers — like Steve Rodowick, recycling coordinator for Butte County Public Works.
PHOTO BY MICHELLE CAMY

SURVEY: WHO'S HANDLING HAZARDOUS WASTE PROPERLY?

The California Product Stewardship Council recently surveyed 101 Butte County residents on how well they know disposal of household hazardous waste (HHW). **Here are the results:**

23% Dispose of HHW correctly on a daily basis.

30% Dispose of HHW correctly every six months.

60% Were unaware of free retail takebacks for batteries and paint.

25% Dispose of cleaners down the drain.

43% Were unaware of the existing household hazardous waste programs in Butte County.

Find out more at buttecounty.net/recyclebutte/householdhazardouswaste

Sierra Nevada Brewing Co. is dedicated to reducing waste, that's why Mandi McKay led the company's switch to reusable 1 lb. propane cylinders.
PHOTO BY MICHELLE CAMY

Responsible Producers

Sierra Nevada Brewing Co. uses a closed-loop philosophy to guide daily operations

BY MATTHEW JOCKS

A lot of work goes into creating that cold bottle of beer, but you may not realize that with each bottle there's a lot of unnecessary waste as well. That's why Sierra Nevada Brewing Co. has made it a point to reduce waste wherever possible.

One of the waste streams identified by Sierra Nevada were the propane cylinders it uses to sterilize equipment in the laboratory, maintain the grounds and even to create flaming desserts in the on-site restaurant. Previously, Sierra Nevada purchased only single-use cylinders, but Sustainability Manager Mandi McKay knew there was a better option. Constantly having to chop up the empty cylinders for disposal was inefficient and potentially dangerous. When McKay was first introduced to reusable 1 lb. cylinders at an environmental event by the ReFuel Your Fun campaign in California, she knew it was a good solution for Sierra Nevada. Each reusable 1 lb. cylinder can be refilled hundreds of times, pays for itself after only three uses and has **much** less impact on the environment than single-use cylinders.

"We have always been driven by a closed-loop philosophy," McKay said. "Anything single use is adding to the waste stream."

McKay brings that mentality to every facet of Sierra Nevada's operation. For instance, Sierra Nevada installed solar panels so it could generate more of its own energy and reduce greenhouse gas emissions.

"The solar panels were clearly worthwhile," she said, "but I wish the end-of-life disposal or recycling options of these things were more available in state."

Sierra Nevada has also invested in sustainability and reducing waste in an abundance of other ways as well, allowing it to successfully divert 99.8% of its solid waste from reaching the landfill and become Platinum Zero Waste Certified at both of its brewery locations. Since 2010, the brewery estimates it has turned 2.3 million pounds of food waste into over 3,700 cubic yards of compost using its HotRot system. Carbon dioxide is captured from fermentation and reused in the brewing process.

The Chico brewery also reduced its water use by investing in drought-resistant landscaping, switching from water-based lubricants on bottling lines, implemented a water recovery system and changed to drip irrigation. All items that can be recycled are collected and disposed of properly to ensure everything that can go to a better use makes it there. These items include cardboard, film plastics, paper, cans, bottles, wood, food scraps, kitchen oil and much more.

While McKay and Sierra Nevada are looking at the big picture, the rest of us can do our part in reducing waste and risk in everyday ways that can make a difference.

It starts with awareness.

> **"Anything disposable is adding to the waste stream."**
>
> **MANDI MCKAY**
> Sustainability manager, Sierra Nevada Brewing Co.

SOLAR DONE SUSTAINABLY

With solar energy's growing popularity, solar panels represent a new — and potentially hazardous — issue to the waste stream. That's because there's no in-state process for disposing of or recycling solar panels, right now they're seen as household hazardous waste (HHW).

In Chico, Sierra Nevada Brewing Co. employs more than 10,500 solar panels to produce about 2 megawatts of energy.

"Those panels are providing about 20 percent of all on-site electricity needs throughout the year," said Mandi McKay, sustainability manager at Sierra Nevada.

In a recent California Product Stewardship Council survey taken by Butte County residents, 11 percent reported having solar panels on their homes with another 21 percent considering installing them in the next five years.

Currently, the California Department of Toxic Substances Control is adopting regulations that would reclassify solar panels from hazardous waste to recyclable universal waste, which also covers e-waste such as computers and televisions.

McKay welcomes the reclassification but ultimately would like to see production move toward a closed-loop system with *Extended Producer Responsibility.*

"How do we think about waste streams as resources for new products or new manufacturing processes?" she asked. "Nothing should be seen as pure waste."

It's a shift in thinking that could make green technology truly sustainable throughout its life cycle, not just in its function.

What toxic products

Use this chart to see which items may be household hazardous waste (HHW) and require careful disposal! Check with one of the county's facilities (see back page) to verify they can accept them for proper disposal before dropping off.

Closet/Bedroom

- **Clothing with batteries (such as light-up shoes, which often contain mercury)**
- **Electronics (such as clocks/speakers)**
- **Light-up party beads/ necklaces**
- **Stuffed animals/dolls with batteries**

Garage & Outside

- **Propane cylinders**
- **Thinners, varnishes and sealants**
- **Pesticides and herbicides**
- **Pool chemicals**
- **Fertilizer**
- **Automotive fluids and filters**
  *Old motor oil can be returned to retail locations for 10 cents/quart return. For list of retailers, see **buttecounty.net/recyclebutte/usedoil***
- **Paint and stains**
  *Drop off unwanted paints and stains for free with PaintCare! Visit **paintcare.org** for a list of locations.*
- **Lead fishing line weights**
- **Special lights (such as garden lights, which often contain solar panels)**

Kitchen

- **Household cleaners and solven**
  Quantities of HHW limited to 5 gallons or 50 pounds. If material is not in original containers, labeling is recommended.

are in your house?

BY MATTHEW JOCKS

Roof

- Solar panels
- Shingles (hazardous from added flame retardants)

Bathroom

- Cleaners
- Bleach, solvents and aerosols
- Polishes, including nail polish
- Hair dye

Living Room

- Remote control (batteries)

  *Never throw batteries in with the trash or recycling! Make sure to tape battery terminals. Visit **call2recycle.org** for more information.*
- TVs
- Mercury thermostat

ts

- Fluorescent light bulbs (often contain mercury)
- Smoke detector (can be radioactive and contain batteries)

Reusable 1 lb. propane cylinders are less dangerous, better for the environment and easy to refill around the county.
PHOTO COURTESY OF CALIFORNIA PRODUCT STEWARDSHIP COUNCIL

Little Products, Big Danger

Lithium-ion batteries and 1 lb. propane cylinders are a hidden hazard to area workers

BY MATTHEW JOCKS

When the battery in the smartphone is dead, and the propane cylinder for the grill is empty, there is one more step for you to take.

And, as the people who handle those items at the end of the line can tell you, that step can be a dangerous one.

Improperly disposed of batteries and propane cylinders are a hidden hazard at recycling and disposal sites.

Kayli Paulucci, manager at the Oroville Solid Waste Transfer Station for household hazardous waste (HHW), said her workers have seen the problem firsthand.

"Lithium batteries, for instance, a lot of times are just thrown in the garbage with everything else," Paulucci said. "They are really small, and it's easy to miss them. If you have, say, a forklift running over them in our facility, you can easily have an explosion."

Battery fires have caused damage at many recycling facilities, and the lithium batteries present special challenges.

"If you do have a fire started from them, you can't put them out with water," Paulucci said. "You need special chemicals to deal with it."

Propane cylinders, especially the 1 lb. size, are also an explosive fire hazard. People think because they're metal they're recyclable, but they get easily lost in large garbage piles or recycling streams. That presents a danger during transport to and inside facilities.

"I know it's getting harder for waste stations to get insurance," Paulucci said. "The risks are so high, and fires caused by HHW have become so common."

> **"Fires caused by HHW have become so common."**
>
> KAYLI PAULUCCI
> *Manager, Oroville Solid Waste Transfer Station*

Added costs — such as higher insurance premiums and more expensive safety equipment — may eventually work their way down the line to the consumer in the form of taxes and fees.

The biggest weapon in fighting these dangers is information and people acting on that information. For consumers, it means being aware of and taking their HHW to drop-off locations and not putting batteries and cylinders in with trash or other recyclables. It can also mean purchasing reusable 1 lb. propane cylinders instead of single-use cylinders, and getting them refilled at U-Haul or other ReFuel Your Fun locations throughout Butte County (visit refuelyourfun.org to use a searchable map).

"People don't always understand the basics," said Jennifer Arbuckle, recycling and public education manager for Northern Recycling and Waste Services (NRWS). "Always read the labels of household products and, when in doubt, contact your local HHW agency or consult the NRWS website to have your questions answered."

In essence, always do the safest thing.

"Even if you think a canister is empty, bring it in," Paulucci said. "If you're not sure whether to tape the ends of the batteries, tape them."

A SOLUTION FOR DISPOSAL

Once you've made the switch to a reusable 1 lb. propane cylinder, where do you fill it up? Thanks to the partnership of local U-Hauls and other retail take back locations throughout Butte County, residents can find a spot to fill up or exchange reusable cylinders.

Visit refuelyourfun.org/maps-events and use the searchable maps to find:

A retailer
Find a retail store in your neighborhood that sells, refills or exchanges reusable 1 lb. propane cylinders.

An event
See when the next take back event is in your region, and what kind of household hazardous waste you can bring to it for proper disposal.

Where to recycle
Flip to the back page of the publication to see which items can be brought to your local waste or recycling facility in between household hazardous waste take back events.

A pile of various single-use vaporizer products found on a high school campus in California.
PHOTO BY JEREMIAH MOCK

Wasteful and Dangerous

Growing trend in tobacco products increases HHW

BY MATT CRAGGS

One of the most common examples of household hazardous waste (HHW) is also one of the most dangerous — rechargeable lithium-ion batteries. What people don't realize is these batteries are often found in vaporizers such as e-cigarettes, vape pens and vape mods.

"Components in vaporizers are considered hazardous waste, and most people don't dispose of them as hazardous waste," said Ellen Michels, project director of Butte County Public Health Department's Tobacco Education Program.

Michels said that these wasteful products, like the plastic components of vaporizers or the single-use pods that go with them, are becoming more common in litter removal around Butte County.

Lithium-ion batteries are popular because they hold a strong charge for a long time. For vape users, this performance is ideal, but batteries in use for long periods of time can lead to overheating during use or even after disposal — leading to explosions.

In his six years working at Blaze N' J's Smoke Shop, Assistant Manager Dallas Darnell said he's encountered one incident of a vaporizer exploding so far.

"He wasn't made aware of proper battery care, and he had taken the plastic off the battery," Darnell said. The plastic, Darnell explained, is what keeps the battery from exploding.

According to a July 2017 study by the U.S. Fire Administration, American media reported 195 separate incidents of explosion and fire involving an electronic cigarette from 2009 through 2016, resulting in 133 acute injuries. Sixty-two percent of the incidents occurred when the electronic cigarette or its battery was in a pocket or actively in use.

> **"Components in vaporizers are considered hazardous waste, and most people don't dispose of them as hazardous waste."**
>
> **ELLEN MICHELS**
> Project director, Tobacco Education Program

Most vaporizer packaging doesn't designate the product as hazardous waste, and it rarely includes information on safe disposal, Darnell acknowledged.

Batteries also pose a greater and more dangerous risk when they're disposed of in the trash.

In 2018, the California Product Stewardship Council surveyed 26 waste facilities throughout California and found that within the last two years, 83 percent reported having a fire at their facility. Of the incidents, 65 percent were caused by batteries.

Michels said statistics such as these should prompt residents to call on their legislators to curtail the problem, ideally by getting the manufacturers involved and reaching out to local waste haulers for where to take their vape pens and batteries for disposal. Used vape pen batteries (just like any other small button battery) should have both contacts taped and be brought to the nearest HHW facility.

RESPONSIBILITY FROM THE START

One way to properly manage hazardous waste is through product stewardship, asking producers to take on more end-of-life disposal or recycling responsibilities for the products they create, or another strategy which evolved from it — Extended Producer Responsibility (EPR). EPR is the driving force behind the California Product Stewardship Council's (CPSC) goal: to have better waste management programs in place by ensuring those producers take on their fair share of end-of-life disposal methods in order to reduce that strain on consumers and local governments.

Whether the programs are voluntary or mandated by legislation, the idea is to have producers take more responsibility — financial and otherwise — for what happens when those products reach the end of their use cycle.

EPR encompasses not just proper disposal, but also production strategies for reuse, green design and more responsible life cycle impact.

"The goal of EPR is to have manufacturers take responsibility for managing disposal of their products," said Joanne Brasch, special project manager for CPSC. "When they are responsible for end-of-life impacts, they are incentivized to create products that are easier and less costly to handle."

Dispose of Your Waste the RIGHT Way

Get rid of your household hazardous waste easily and for free in Butte County

Butte County residents can dispose of household quantities — 5 gallons or 50 pounds at a time — of a variety of hazardous wastes at one of three facilities in the county.

Butte Regional Household Hazardous Waste Facility

1101 Marauder St., Chico, CA 95973
866-429-2288
Friday, 9 a.m. – 1 p.m.
Saturday, 9 a.m. – 4 p.m.

Recology of Butte Colusa Counties

2720 South 5th Ave., Oroville, CA 95965
530-533-5868
First and third Fridays of the month,
9 a.m. – 2 p.m.

Ord Ranch Transfer Station

119 Ord Ranch Rd. (about a mile east of Highway 99, just north of Gridley)
530-846-0810
Open weekends for general waste but accepts antifreeze, batteries, oil, and paint (ABOP) and e-waste the second Sunday of the month from 9 a.m. – 4 p.m.

Residents of Paradise are welcome to visit any of the above locations to dispose of their household hazardous waste items.

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Butte County PUBLIC WORKS

City of Oroville, California Incorporated 1906

Refuel Your Fun & $ave! Choose Reusables!

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Accepted Common Household Items

- Batteries
- Furniture polish
- Latex- and oil-based paint
- Paint thinner, stains, varnish, lacquers
- E-waste such as cellphones, computers and televisions
- Pool chemicals
- Motor oil
- Fluorescent lights
- Chemical fertilizers
- Cleaning supplies
- Antifreeze
- Gasoline
- Oil filters
- Pesticides
- Aerosols
- Bleaches
- Solvents
- Craft and hobby supplies
- Mercury thermostats and thermometers
- Small consumer electronics
- Herbicides
- Poisons
- Polishes
- Televisions and electronic waste

Prohibited Items

- Tires
- Appliances
- Radioactive waste, including smoke detectors
- Fireworks
- Ammunition — Contact local law enforcement to dispose of any quantity of live ammunition.
- Solar panels
- Garbage
- Explosives

For more info, visit:
buttecounty.net/recyclebutte/householdhazardouswaste

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