# Rodenticides, Hazardous to Children, on Their Way Out

*Despite non-toxic alternative controls, chemical industry fights to retain toxic chemicals*

by Xoco Shinbrot

*After more than a decade of research, review and revisal, the U.S. Environmental Protection Agency (EPA) is slowly moving toward the final step in canceling and restricting poisonous rodenticide products that have been shown to poison wildlife (including endangered species), pets, and children. Even though EPA has found the number of exposure incidents resulting in symptomatic diagnoses and/or requiring treatment to be unacceptably high, officials in the past have hesitated to take regulatory action, but are now poised to act.*

A young mother puts out two blocks of rat poison. Two hours later, her toddler starts vomiting and his stool is colored bright green. Later, she finds the remains of a container that held rat poison behind the family's television.

This scene has been a regular occurrence in American homes since rodenticides became commercially available. EPA has known for decades that thousands of children each year are exposed to these super-toxic poisons used to kill rodents. In 2009, approximately 40,000 children were exposed to rodenticides (blocks, granules, pellets and powder), and the majority of calls to poison control centers concern children under the age of three. Children poisoned by ingesting rodenticide products can suffer internal bleeding, coma, anemia, nosebleeds, bleeding gums, bloody urine and bloody stools. Many are anti-coagulants, chemicals that prevent blood from clotting or coagulating. Manufacturers have also stood by outmoded formulations and technologies that give children and pets easy access to these poisons. The brand names still available on the market but slated for cancellation include d-CON Mouse Prufe, Hot Shot Sudden Death, Rid-a-rat, and Generation Meal Bait Packs. While EPA now is moving to restrict household use of these rodenticide products, legal and lobbying efforts by the multinational corporation that sells d-CON products is working to stop the agency from moving forward. Despite this, EPA has made it known that it intends to finalize this important rulemaking. The final cancellation order is expected in early 2013.

## Children Poisoned

The rodenticide products identified by EPA for cancellation pose significant risks to human health. Children are particularly susceptible to accidental poisoning because they tend to play on floors and explore by putting items in their mouths. According to the 2010 Annual Report of the American Association Poison Control Centers' National Poison Data System, there were over 40,000 cases of children six years and younger who experienced exposure to rodenticide products. Of those, 10,227 were from anticoagulant rodenticides. Data from New York City's Department of Health and Mental Hygiene also indicate that between 2000 and 2010, of a total of 4,250 unintentional exposures to rodenticides, 79% were children less than six years old.

Exposure to these poisons can have long-term health effects. For example, courmarin, an anti-coagulant, has been shown to cause paralysis due to cerebral hemorrhage and is teratogenic (causes birth defects). Long-term exposure to the indandione diphacinone


*D-CON is one of the brand names that has challenged EPA's cancellation and is actively lobbying to stop the agency from moving forward. Despite these efforts, EPA intends to proceed. It is still legal to sell these products on the market until the final cancellation order is issued in early 2013.*

causes nerve, heart, liver, and kidney damage as well as damage to skeletal muscles.

## Secondary Exposure Risks to Wildlife

Beyond the known health risks at home, there is strong evidence that pets and wildlife are being poisoned due to secondary exposure to rodenticide baits. Federally listed threatened and endangered species, such as the San Joaquin kit fox, Northern spotted owl, and the bald eagle have suffered lethal effects from these rodenticides, either through direct or indirect contact. Rodents, which can feed on poisoned bait multiple times before their death, contain residues that may be many times the lethal dose. Additionally, poisoned rodents make easy prey for predatory birds and other wildlife as well as for carrion predators, ensuring that many of these rodents are caught and consumed, leading to secondary poisonings. According to EPA, secondary dietary exposures for birds from the rodenticides brodifacoum and difethialone exceed levels of concern.

## Regulatory Action

Over the past decade EPA has struggled to protect people, especially children, and wildlife from exposure to toxic rodenticides. In 1998, EPA safety regulations, which required manufacturers to include an ingredient that makes the poison taste bitter and a dye that would make it more obvious when a child ingested the poison, was revoked in 2001 after EPA announced that a "mutual agreement" was reached with the chemical manufacturers. In short, some pesticide manufacturers thought putting a bittering agent into the poisons deter rodents from eating the product. In response, the Natural Resources Defense Council (NRDC) and the West Harlem Environmental Action (WE ACT) filed a lawsuit in 2004, challenging EPA's regulations as unprotective of children.

In 2007, EPA proposed a requirement that all over-the-counter rodenticides sold for residential use be available only in tamper-resistant bait stations to reduce the incidents of accidental exposure to children. Then, in 2008, EPA issued its risk mitigation decision requiring rodenticide manufacturers to adhere to four primary requirements:

1. Rodenticides marketed to consumers must be sold as a block or paste bait, banning the sale of granular and pellet formulations.
2. Rodenticide baits stations sold over the counter may carry no more than one pound of bait, and only in bait stations designed to keep out children and pets.
3. Highly toxic second-generation rodenticides are prohibited from the retail market, particularly anticoagulants, brodifacoum, bromadioine, difenacoum and difethialone.
4. Professional exterminators and employees of farms and businesses may continue to use loose baits and more toxic rodenticides.

Since then, three manufacturers still market products that are not in compliance with EPA standards: Reckitt Benckiser LLC, makers of D-Con rodent control products; Spectrum Group Division of United Industries Corporation, makers of Hot Shot and Rid-a-Rat rodent control products; and, Liphatech Inc., makers of Generation rodent control products (See Table 1).

## Manufacturer Decry EPA's Decision

EPA is within a hair's breadth of issuing a final cancellation, but recent comments by manufacturers, most notably Rickett Benckiser, have indicated that industry will challenge EPA on its decision. While evidence shows (and EPA agrees), that these 20 rodenticides pose environmental and public health risks, Reckitt Benckiser is adamant that EPA has failed to address additional areas of interest, including the potential impact the cancellation could have on low income and minority populations, as well as the benefits that these rodenticides may provide users against infestation, disease propagation, and property destruction.

## Rodenticides Disproportionately Impact Low Income Groups

Rickett Benckiser argues that regulation preventing the use of their product could have a significant impact on low income and minority populations. Certainly, from a poisoning perspective this is true. Black and Hispanic children living below the poverty line are disproportionately affected. For example, a study in New York found that 57 percent of children hospitalized for eating rat poison from 1990 to 1997 were African-American and 26 percent were

## Typical Rodenticide Products

Rodenticides can be broken down into three categories—baits, tracking powders and fumigants. Both baits and tracking powders are rodent poisons in the traditional sense. They must be eaten to kill the pest. Baits are designed to attract the rodent to a feeding station. Tracking powders are placed along rodent runways in and around buildings, picked up by the fur as the animal passes by, and then ingested during grooming. Fumigants are poisonous gasses, designed to kill rodents in their burrows.

Multiple feed baits are the most commonly used type of rodent poisons. Typically these poisons act as anticoagulants, literally causing the rodent to bleed to death internally. The fact that these poisons must be made available to the rodent over time makes them very hazardous, as children, pets and other non-target animals have an extended opportunity to get to them.

Latino. However, low income and minority populations are also the least financially prepared to deal with the unintended consequences of rodenticide poisonings and exposure, considering the rising costs of health care. Considering the impact to low income populations, children, and wildlife, EPA has the responsibility to restrict poisonous and dangerous rodenticides.

## Defined IPM Is the Safer Alternative to Managing Rodents

As EPA moves toward cancellation of the rodenticide products in the residential setting, the adoption of practices not reliant of poisons that hurt children and the environment are key to the agency's registration review. One unintended consequence of restricting these rodenticides could be their replacement with another toxic chemical, bromethalin. Bromethalin, unlike anticoagulants, has no antidote and the treatment, which uses corticosteroid, is unreliable, as symptoms often return. Bromethalin works by disrupting ATP production, which impairs cellular ability to control osmosis. This damage can cause paralysis, convulsions and death. Substitution of anticoagulants for yet another toxic agent like bromethalin would be indicative of the failure of U.S. pesticide regulation to advance least-toxic methods.

Consumers must be aware that using toxic rodenticide products is not a long-term healthy solution to controlling rodent populations. Defined integrated pest management (IPM) is a low cost strategy that eliminates the need for any hazardous rodenticides by focusing on preventing rodent infestations. For instance, by always cleaning up food and food areas, placing food in airtight, sealed containers, disposing of food and food wrappers in sealed garbage containers, repairing leaky pipes and faucets, caulking up cracks and crevices, and eliminating clutter whenever possible, residents can effectively eliminate food and water sources and prevent infestations. For outdoor rodents, the key is to modify habitat and decrease food sources to help keep populations under control.

Sanitation, structural repairs, mechanical and biological control, pest population monitoring are prioritized IPM methods that improve rodent control.

## Take Action

The public concerned about protecting the health of children must be heard. When chemical companies do not get the response they want from regulators enforcing law to protect health and the environment, they often seek a political solution by running to Congress to try to force regulators to back off. That is what is happening here.

We must let EPA protect children, as the law requires, and recognize that there are methods and products available that can manage rodents without poisoning children. Here is how you can help:

1. Support EPA's decision to cancel. Visit Beyond Pesticides Take Action page and send your letter of support. bit.ly/UXSy2f
2. Contact your member of Congress and let them know that EPA must move forward with the cancellation of these products in order to protect public health, especially children. Ask them to write a letter to Administrator Lisa P. Jackson, EPA to support the agency moving forward.
3. Tell your friends and family not to purchase the rodenticide products not in compliance with EPA's decision (See Table 1).

## Table 1. Products Proposed For Cancellation

| Manufacturer | EPA Registration Number | Product Name |
|---|---|---|
| **Reckitt Beckiser LLC** | 3232-3 | D-CON CONCENTRATE KILLS RATS & MICE |
| | 3282-4 | D-CON READY MIXED KILLS RATS & MICE |
| | 3282-9 | D-CON MOUSE PRUFE KILLS MICE |
| | 3282-15 | D-CON PELLETS KILLS RATS & MICE |
| | 3282-65 | D-CON MOUSE PRUFE II |
| | 3282-66 | D-CON PELLETS GENERATION II |
| | 3282-74 | D-CON BAIT PELLETS II |
| | 3282-81 | D-CON READY MIXED GENERATION I |
| | 3282-85 | D-CON MOUSE-PRUFE III |
| | 3282-86 | D-CON BAIT PELLETS III |
| | 3282-87 | D-CON II READY MIX BAITBITS III |
| | 3282-88 | D-CON BAIT PACKS III |
| **Liphatech Inc.** | 7173-247 | GENERATION MEAL BAIT PACKS |
| | 7173-283 | DIFETHIALONE BAIT STATION |
| | 7173-285 | DIFETHIALONE 6G PASTE PL PKS |
| **Spectrum Group Division of United Industries Corporation** | 8845-39 | RID-A-RAT RAT & MOUSE KILLER |
| | 8845-125 | HOT SHOT SUDDEN DEATH BRAND MOUSE KILLER |
| | 8845-126 | HOT SHOT SUDDEN DEATH BRAND RAT KILLER 1 |
| | 8845-127 | HOT SHOT SUDDEN DEATH BRAND RAT & MOUSE KILLER |
| | 8845-128 | HOT SHOT SUDDEN DEATH BRAND MOUSE KILLER BAIT STATION |