

Chemicals in the crib

Testing for Tribune finds flame retardants linked to cancer in some popular baby mattresses, surprising and alarming scientists

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Three popular brands of baby mattresses that were marketed in recent months to families and day care centers contained toxic flame retardants linked to increased cancer risk, according to laboratory tests conducted for the Chicago Tribune.

One member of that family of chemicals, known collectively as chlorinated tris, was removed from children’s pajamas over cancer concerns a generation ago.

Yet that same flame retardant turned up in significant amounts in 11 baby mattresses sold recently by national and local retailers under the Babies R Us, Foundations and Angeles brands. Two other mattresses made by Angeles contained a related form of tris.

While furniture-makers often add flame retardants to the polyurethane foam cushioning in sofas and upholstered chairs, the test results on infant mattresses surprised and alarmed some scientists who have studied the chemicals. Babies and even toddlers can spend 12 or more hours a day in a crib, and foam mattresses can meet federal fire-safety rules without the use of chemicals.

Linda Birnbaum, director of the federal government’s National Institute of Environmental Health Sciences, said regulators had assured her that chlorinated tris and other toxic flame retardants weren’t used in mattresses.

“These are bad chemicals, and we’ve known they’ve been bad for a long time,” said Birnbaum, a toxicologist. “If these chemicals are in your child’s mattress, they are going to be constantly exposed.”

In the late 1970s, University of California at Berkeley scientists found that TDCPP, a form of tris, could cause mutations in DNA, and its manufacturer removed it voluntarily from the market for children’s pajamas. When researchers look for flame retardants in house dust, they still find TDCPP, which was never banned.

The Tribune tested 27 mattresses. All of the mattresses containing chlorinated tris had one thing in common: labels saying they were made in China or imported from China. None of the tested mattresses made domestically contained significant amounts of any form of chlorinated tris.

The response to the test results from manufacturers, importers and retailers varied.

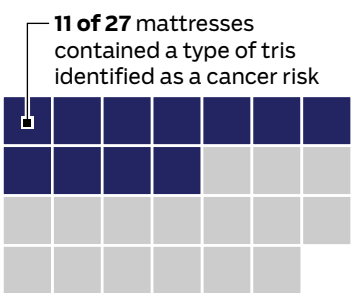
Wayfair, the retailer that fulfilled the Tribune’s Wal-Mart order through the retail giant’s online marketplace program, halted sales of the Angeles crib mattress, which fits cribs that are popular at child care centers.

One importer, however, vigorously defended its product.

Summer Infant Inc., the importer of the Babies R Us branded crib and bassinet mattresses that contained

OUTCOME OF FLAME RETARDANT TESTS

Tests looked for chlorinated tris, one type of flame retardant

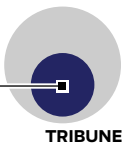


Late 1970s

When this type of tris was voluntarily removed from children’s pajamas in the U.S.

Tris accounted for at least 5% of the weight of the foam in 8 of 27 mattresses

SOURCES: Stat Analysis Corp., Tribune reporting



chlorinated tris, noted that the mattresses “are in a sealed impermeable plastic covering,” which “ensures no exposure of the inner mattress foam to the child.”

Responding to questions from the Tribune, the company wrote, “Simply put, the statements made are misleading and reckless in that they imply a health hazard that doesn’t actually exist.”

But Birnbaum and Heather Stapleton, a Duke University chemist who studies flame retardants, questioned whether any foam product can be sealed completely. They said chemicals escape when they vaporize and seep through seams or holes and get into air and dust.

And Inez Tenenbaum, chairman of the U.S. Consumer Product Safety Commission, stressed that she sees no need for flame retardants in children’s mattresses, which can be protected with inherently flame-resistant wraps or barriers.

“I strongly encourage all mattress manufacturers to comply with our performance standard through the use of barrier technologies and to avoid using any potentially harmful chemicals to which children can be exposed,” she said in a statement. “The law strictly prohibits children’s products from having hazardous chemicals that children could be exposed to and could foreseeably cause substantial illness or injury.”

The agency is awaiting approval from its federal safety commissioners for a broad study of children’s exposure to flame retardants in consumer products. Responding to the Tribune, agency officials last week began purchasing the same models tested by the Tribune for their own studies to determine how much chlorinated tris could escape and be absorbed through a baby’s skin, ingested or inhaled.

The findings from the testing commissioned by the Tribune echo those of a California environmental group. The Center for Environmental Health, in Oakland, hired a lab to conduct tests but did not release the precise results in announcing its findings earlier this month. Instead, that group is using a California labeling law and the threat of a lawsuit to prod companies to reformulate their products without tris.

Neither the Tribune nor the Center for Environmental Health knew that the other was testing baby mattresses.

Because they are smaller than adults and their bodies are still developing, children face greater risks from exposure to toxic chemicals, said Dr. Jerome Paulson, a George Washington University pediatrician.

Last year, Paulson wrote an American Academy of Pediatrics policy statement calling for a sweeping overhaul of the nation’s chemical safety law to protect children.

“We know these flame retardants are hazardous,” he said in an interview. “The fact that you found these chemicals in crib mattresses is evidence of an ongoing problem that we as a nation have been unwilling to confront.”

In May, the Tribune published its “Playing With Fire” series, which revealed how flame retardants are commonly found in American homes as a result of a decades-long campaign of deception by the tobacco and chemical industries. Among other things, the leading manufacturers of flame retardants created a phony consumer group that stoked the public’s fear of fire to protect and expand the use of their chemicals in furniture, electronics and other products.



E. JASON WAMBSGANS/TRIBUNE PHOTO

A Chicago lab extracted foam from baby mattresses and tested it for flame retardants identified as a cancer risk.

There are several kinds of flame retardants used in foam. Chemical manufacturers have said chlorinated tris is safe, but the Tribune chose to test for tris because

SOURCES: Stat Analysis Corp., Tribune reporting

the science showing potential harm is well documented.

The World Health Organization, the National Cancer Institute, the National Research Council and the safety commission have identified TDCPP as a cancer risk. Safety commission researchers in 2006 cautioned that adding TDCPP to upholstered furniture could expose children in their first two years of life to a cancer risk seven times higher than what most scientists and regulators consider acceptable.

Decades ago, the National Toxicology Program found the second form of chlorinated tris, known as TCEP, to be a cancer risk. The state of Washington requires manufacturers to report to state regulators the use of TCEP in children’s products, and a New York state ban on TCEP in products for young children will take effect in December 2013.

Less is known about the third form of chlorinated tris, known as TCPP. A 2000 report by the National Research Council concluded that TCPP had not been adequately studied for possible health effects. Eight years later, a risk assessment by the European Union concluded that the flame retardant is a possible cancer risk because it is chemically similar to TCEP and TDCPP.

When tests showed a mattress contained any form of chlorinated tris at levels that Stat Analysis considered above a trace amount, the Tribune bought sister products from the same brand and had them tested to see if there was any pattern.

An Angeles portable crib mattress manufactured in April 2012 and bought from Wal-Mart online earlier this month had the highest levels of TDCPP of any of the mattresses tested. Two other Angeles mattresses, both manufactured in June 2011, contained some TCPP but did not contain any TDCPP.

David Curry, a general manager at Angeles, said his company was conducting its own investigation and declined to comment further.

Wal-Mart noted that Wayfair stopped selling the Angeles mattress when informed of the Tribune’s results.

“Some of our largest suppliers of baby products have already begun eliminating the use of flame retardants that appear on lists of chemicals of high concern,” Wal-Mart spokeswoman Dianna Gee added in an email. “We encourage our suppliers, who have not done so, to evaluate the use of chemicals of concern in advance of regulation.”

Foundations cribs, which are sold with the company’s mattresses, are “used in more hotels and child care facilities worldwide than any other brand of cribs,” according to its website. For testing, the Tribune bought six different Foundations mattresses, and all contained TDCPP and TCPP.

Two of them also contained TCEP. However, foam samples taken from a different location in one of those mattresses did not contain TCEP, the lab found. It is possible that chemical levels will vary within foam if they’re not mixed properly or if flame retardant residue from one batch of foam contaminates the next, according to experts.

The Foundations mattresses that were tested came from Amazon.com. Amazon continues to sell those mattresses, but its listings now include a “click here” link

CRIB MATTRESSES WITH NO TRIS OR TRACE AMOUNTS

By brand

- Colgate Classica II Extra Firm Crib Mattress
- Baby Cache Sweet Dreams Comfort 2 Stage Infant-Toddler Mattress
- Serta Master Sleeper by La Jobi Dual Sided Mattress
- Sealy Signature Soybean EverEdge Foam-Core Crib and Toddler Bed Mattress
- Simmons Kids BeautySleep Superior Rest 2 'n' 1 Innerspring Mattress
- Simmons Kids SlumberTime Naturally 2 'n' 1 Convertible Mattress
- Little Dreamer by Moonlight Slumber
- Dream on Me Orthopedic Firm Foam Crib Mattress
- Colgate 3-inch Portable Crib Mattress
- Cub Club Crib Mattress & Accessory Pad
- Simmons Kids BeautySleep Portable and Day Care Crib Foam Mattress
- L.A. Baby 3-inch Compact Crib Mattress
- Naturepedic Organic Cotton Element Lightweight Infant & Toddler Mattress
- Kolcraft Good Night, Baby Crib & Toddler Bed Mattress

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for California residents that takes consumers to a page that says, “WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.”

A spokesman for the retailer said in an email: “We require our vendors and third party sellers to comply with all applicable laws and regulations.”

The Tribune sent lab test reports and product details to officials at Foundations, but they did not respond to phone calls or emails seeking comment.

The company did, however, briefly post a statement on its website saying it had received assurances from its suppliers that its mattresses were free of TDCPP.

In that statement, which Foundations later removed, the company said the Center for Environmental Health alleged that some Foundations products contained TDCPP and required warnings under California law.

“Foundations has begun testing to ascertain whether TDCPP, contrary to the assurances it received, was or is present in any of its products,” Foundations wrote on its website. “Second, the company will confirm and ensure that no new production contains TDCPP.”

In the meantime, the company said it was adding warning labels to products shipped to California and asked retailers selling to customers in that state to add the labels “out of an abundance of caution.”

On Oct. 28, California started requiring warnings on products sold in that state if the products could expose people to harmful amounts of TDCPP.

California’s Center for Environmental Health found TDCPP in Foundations and Angeles crib mattresses and in a Babies R Us bassinet pad. The center did not test for TCEP, which also can trigger warning requirements under California law, or TCPP.

All four Babies R Us branded mattresses purchased by the Tribune — two products made for portable cribs and two for bassinets — contained TDCPP and TCPP, Stat Analysis found. Babies R Us continued to sell those kinds of mattresses: One of the chain’s stores in Niles had them on its shelves Thursday.

Jennifer Albano, a spokeswoman for Toys R Us Inc., which owns the Babies R Us chain, said all products in its stores meet or exceed applicable laws, including flammability standards.

“As always, we will continue to monitor any emerging product safety concerns and to work with our suppliers to identify new ways to raise the bar on the safety of the products sold in our stores,” Albano wrote in an email.

Summer Infant, the importer of those Babies R Us branded mattresses, in a written statement faulted the Tribune for analyzing the chemical content of the foam



E. JASON WAMBSGANS/TRIBUNE PHOTO

Mattress samples are prepared for testing to see if they contain flame retardants linked to increased cancer risk.



E. JASON WAMBSGANS/TRIBUNE PHOTO

At a Chicago lab, a foam sample is cut from a baby mattress. The tested mattresses were bought from major retailers.

inside a product rather than “risk assessment models” that look at whether a consumer is exposed.

The company wrote that its products comply with all safety commission regulations and that “there is no hazardous exposure to the cited flame retardants.”

“Summer Infant’s top priority in manufacturing juvenile products is the health and safety of every child,” the company wrote.

Stapleton, the Duke University chemist who led the largest study of flame retardants in baby products, offered a different take on the permeability of mattresses. She said chemicals like TDCPP can escape from products such as mattresses any time air moves through them. A truly sealed mattress would pop like a balloon when compressed, she said.

“Can you push your hand down on it, and does air escape?” Stapleton asked. “There’s no such thing as hermetically sealed if you have air coming out.”

Summer Infant mattresses had seams with visible stitches and had ends covered with overlapped fabric. A reporter was able to stick her finger between the overlapped plastic and touch foam. Though it’s unlikely a baby would ever reach into that space, air can escape through it.

The Foundations mattresses also had visible stitching, and one had similar overlapped fabric. In contrast, the Angeles mattresses had no obvious stitching or gaps. But all of the mattresses could be compressed with little pressure before springing back to their original shape.

Measuring a child’s exposure to chemicals in a mattress is complicated. The safety commission’s proposed testing would apply 100,000 cycles of pressure over 24 hours to represent years of use, while sampling the air above.

To simulate bed-wetting and sweating, agency scientists plan to apply wet fabric to see what chemicals wick out of the mattress, agency spokesman Wolfson said.

“Once a thorough assessment of risk is completed, scientists can estimate the likelihood of a child experiencing any adverse effects,” the agency said in a written statement.