



Containing contaminant

Michael Hawthorne reports that legislation to ban the export of mercury aims to prevent U.S. water pollution.

Stockpiles of toxic mercury kept by industry soon will be stored safely in the United States instead of ending up on the world market where it might pollute the environment.

Under bipartisan legislation Congress sent to President George W. Bush Monday for his expected signature, mercury exports would be banned in 2013 and the Energy Department would be required to store the heavy metal permanently.

The bill's chief sponsor, Sen. Barack Obama, introduced the bill in response to a 2005 Tribune series about mercury contamination in fish.

Although the number of U.S. companies that use mercury in industrial processes or products is declining, concerns are growing over exporting the silvery metal to loosely regulated industries in developing countries.

Much of the exported mercury is released into the atmosphere by small-scale gold-mining operations, thermometer manufacturers and chemical plants in developing countries. Scientists say some of that air pollution can drift back to the U.S. and contaminate lakes and rivers, undercutting aggressive efforts to keep mercury out of

the environment.

The dangers of mercury exposure are greatest for young children and women of child-bearing age who eat contaminated fish.

"We know that mercury can cause serious developmental problems in children and problems affecting vision, motor skills, blood pressure and fertility in adults," Obama said in a statement. "While the United States has improved its efforts to collect and contain mercury, this country remains one of the leading exporters of this dangerous product."

Under pressure from Obama and a handful of other senators, the Energy Department last year agreed to keep its own 1,300-ton stockpile of mercury off the market. The metal once was used to process material for hydrogen bombs.

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Tainted seafood

For more coverage on the Tribune's "Mercury Menace" series, go to chicagotribune.com/mercury

U.S. won't sell huge stockpile of mercury

Decision could boost efforts to phase out its use worldwide

By Michael Hawthorne

Tribune staff reporter

One of the nation's largest stockpiles of toxic mercury will remain locked up instead of oozing into the world market.

After mulling a potential sale for several months, the U.S. Department of Energy confirmed Tuesday that it will keep nearly 1,300 tons of mercury in storage, increasing pressure on private companies to follow the same policy.

The Tribune reported in November that federal officials were considering selling off the Energy Department's surplus, prompted in part by legislation introduced by U.S. Sen. Barack Obama (D-Ill.) that would ban American exports of the silvery metal.

TRIBUNE EXCLUSIVE

Once used to process material for hydrogen bombs, the government's mercury has been in storage since alternative methods were developed in the early 1960s.

Some of it has been sold over the years. But as scientists have become more aware of the dangers of mercury exposure, government officials and corporate executives have increasingly faced pressure to keep it out of the environment.

Most of the mercury sold today is funneled to loosely regulated industries in developing countries, where it can end up being released into the atmosphere and contaminating lakes and rivers around the world.

"This should concern all of us, especially parents," Obama said in response to the Energy Department's announcement.

"There are affordable and

MERCURY: Obama calls alternatives affordable

CONTINUED FROM PAGE 1

available alternatives to mercury," Obama said. "We just need to take the steps necessary to keep it from being shipped around the world where we lose track of it, because ultimately it will make its way back to the United States in the food that we eat and put our kids at risk."

Mercury pollution that falls into waterways becomes more dangerous as it moves up the food chain from small aquatic organisms to fish to people. The metal can build up in the body, causing developmental problems in children and neurologi-

cal damage in adults.

The Energy Department's stockpile is five times larger than all of the mercury exported by U.S. businesses during 2004, the last year for which figures are available.

The Defense Department has an even larger surplus—4,400 tons—but opted three years ago to store the mercury to avoid "human health and ecological risks."

New strategy sought

Federal officials have been trying to forge a uniform government policy for several months. In late December, the Bush administration drafted a policy statement calling for a new strategy to manage all of the nation's mercury stocks.

"The U.S. government's actions not to sell mercury on the open market sends a positive message to both private and state domestic mercury holders, as well as to global environmental policymakers," the document concluded.

Energy Secretary Sam Bodman later sent a letter to Obama confirming the agency's decision not to sell its surplus.

Environmental groups think the latest development could boost their efforts to phase out the use of mercury worldwide, similar to the way ozone-depleting chemicals have been gradually pulled from the market.

The European Union already has moved to prohibit mercury exports. Diplomats are scheduled to bring up the issue again next month when the governing council of the United Nations Environment Program meets in Nairobi, Kenya.

"This is a great chance to keep mercury from coming back on our dinner plates," said Michael Bender, director of the Mercury Policy Project, a U.S. advocacy group that has been involved in the negotiations.

Most American industries that once used mercury to make batteries, thermometers, electrical switches and chlorine have switched to less harmful



ONLINE
■ For photos, video and more of the Tribune's coverage of the mercury menace, visit chicagotribune.com/mercury.

technologies. Many states have taken steps to discourage mercury-laden garbage from being disposed of in landfills.

But there still is robust demand for the metal in other countries. Sellers can fetch more than \$700 for a 76-pound flask of mercury, up from \$150 six years ago, according to the U.S. Geological Survey.

Few questions asked

Sales are handled by purifiers and brokers who operate without government oversight. Few if any questions are asked about what happens to the flasks once they are sold.

UN officials have tracked most of the exported mercury to small-scale gold mining operations in Brazil, Mexico, Peru

and other developing countries. Miners separate gold from ore by heating a mercury-laden amalgam, but they rarely use equipment to prevent mercury from being released into the air.

Gold mines churn about 1,000 tons of mercury into the atmosphere every year, second only to coal-fired power plants, which release 3,000 tons, according to the UN.

Despite the federal government's decision to store its surplus, American mercury may still flood the world market from another source. Two chemical plants that use large amounts of mercury to make chlorine are shutting down, and Obama is pushing another bill that would require six other chlorine plants to close or

switch to mercury-free technology by 2012.

The industry had more than 2,600 tons of mercury on hand at the end of 2005. The Chlorine Institute, an industry trade group, has said it won't sell the mercury if the government is willing to store it. But so far, federal officials have agreed only to study the issue.

"We haven't seen a lot of progress on that front," said Arlene O'Donnell, commissioner of the Massachusetts Department of Environmental Protection and leader of a group of state regulators active on mercury-related issues.

Obama said he decided to get involved after reading a Tribune series in 2005 on mercury contamination in fish.

"The solution to this problem is not for people to stop eating fish," Obama said. "It's for us to change the practices that contaminate our fish."

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THE MERCURY MENACE A TRIBUNE INVESTIGATION UPDATE

FDA to check tuna

U.S. to investigate mercury levels in canned fish

By Sam Roe
Tribune staff reporter

The Food and Drug Administration will investigate whether tens of millions of cans of tuna sold each year contain potentially hazardous levels of mercury.

Responding to a Tribune series this month on mercury in fish, the FDA said it will review the possibility that there are elevated mercury levels in some cans of "light tuna," one of America's best-selling seafoods and a product the agency has recommended repeatedly as a low-mercury choice.

The Tribune revealed that the U.S. tuna industry is using a po-

tentially high-mercury tuna species, yellowfin, to make about 15 percent of the 1.2 billion cans of light tuna sold annually. Most of these cans are not labeled yellowfin, making it impossible for consumers to know which cans might be high in mercury.

In an interview, David Acheson, the FDA's chief medical officer, said the agency had been unaware that some canned light tuna was made with a species that often is high in mercury.

"We will definitely look at it through our office of seafood and determine whether there is something that requires further pursuit," Acheson said. He could not say exactly what the

investigation would entail or whether the agency would conduct additional testing of canned tuna.

The chief lobbying group for the leading tuna producers—StarKist, Bumble Bee and Chicken of the Sea—said the industry would cooperate with the FDA inquiry. The executive director of the U.S. Tuna Foundation, David Burney, said canned light tuna was not a health risk and that its mercury levels were well below government limits. "It's a non-issue," Burney said.

But top consumer and environmental groups called on the

PLEASE SEE TUNA, PAGE 22

The problem: You don't know what's in the can

The U.S. tuna industry usually uses skipjack tuna in its canned light product. But sometimes it uses higher-mercury yellowfin tuna, leaving consumers potentially at risk. Under EPA guidelines:



A 160-POUND PERSON
CAN SAFELY EAT ABOUT

15 ounces*

of skipjack tuna per week



BUT A 160-POUND PERSON
CAN SAFELY EAT ONLY ABOUT

5 ounces*

of yellowfin tuna per week

*Mercury levels based on FDA testing and industry estimates

Read our original investigation at chicagotribune.com/mercury

TUNA: Critics say consumers left in dark

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tuna industry to stop using yellowfin in canned light tuna.

"It's unforgivable," said Linda Greer, a toxicologist at the Natural Resources Defense Council, a leading conservation group. She said it was ironic that "efforts to recommend canned light tuna to people is undermined by industry shoving contaminated fish into the wrong cans."

Almost all of the mercury that people are exposed to comes from eating fish tainted with the toxic metal. Because mercury can harm the developing central nervous system, young children and fetuses are most at risk.

Children exposed to dangerous levels of mercury can suffer subtle learning difficulties, including delays in walking and talking. Adults can experience headaches, fatigue, loss of concentration and numbness in the hands and feet.

While the mercury content in canned yellowfin tuna varies, the industry said the average is about three times higher than that of regular canned light, which generally is made with skipjack, a smaller tuna species with lower mercury levels.

Canned yellowfin, the industry said, has about as much mercury as canned albacore, a product the federal government has warned at-risk groups about because of high amounts of the toxic metal. In 2004, the FDA and the Environmental Protection Agency jointly warned young children, pregnant women and women of childbearing age to not eat more than 6 ounces of canned albacore per week.

But no warning exists for canned yellowfin.

The FDA-EPA warning also states that canned light tuna is low in mercury and therefore a wise choice for at-risk groups.

Canned light tuna does have relatively low amounts of mercury on average, but the levels can vary widely. John Stiker, a former Bumble Bee executive, said the use of yellowfin in canned light might result in some cans testing high. A can of light tuna with low levels of mercury might consist of skipjack, Stiker explained, while a can testing high might be solely yellowfin.

'Just plain wrong'

Michael Bender, head of the Mercury Policy Project, a non-profit advocacy group based in Vermont, said the tuna industry's practice of putting yellowfin into canned light without appropriate labels is "just plain wrong."

"If the public doesn't know what species they are eating, they have no way to tell if the product has low, medium or high amounts of mercury," he said.

Caroline Smith DeWaal, food safety director for the Center for Science in the Public Interest, said the revelation that yellowfin is in light tuna makes the federal government's mercury warning "even less protective."

The Tribune series reported that about 180 million cans of light tuna are made with yellowfin each year. Half of those cans are marketed as a gourmet product. StarKist calls its product "Gourmet's Choice." Chicken of the Sea markets a "Tonno" product under the Genova label and Bumble Bee offers a "Tonno in olive oil" variety. Of those, only Genova identifies its product as yellowfin.

As part of its series, the Tribune bought 18 cans of gourmet tuna from area stores and tested them for mercury. The results showed low levels of the toxic metal: 0.06 parts of mercury per million parts of fish tissue, far

lower than the 0.35 parts per million average reported by the tuna industry.

Stiker said he was surprised by the results and speculated that Chicago had received shipments of gourmet cans made with small, young yellowfin that would be low in mercury because the toxic metal accumulates up the food chain.

Industry fights warnings

In recent years the tuna industry, fearing class-action lawsuits and a drop in sales, has opposed government efforts to warn consumers about mercury in tuna, federal records show. The industry is especially concerned about warnings regarding canned light tuna, which accounts for 65 percent of all cans of tuna sold. Albacore makes up 35 percent.

Since the Tribune series was published, the Tuna Foundation has defended the use of yellowfin in light tuna.

In an interview, Burney, the foundation director, said gourmet canned tuna is not light tuna but rather "a completely different product."

But gourmet cans prominently say "light tuna" on the labels.

Burney responded to that discrepancy by saying the gourmet canned product "is set off by itself in the stores if you go and get it. It's not set with the cans of light-meat tuna."

But when the Tribune bought gourmet tuna at 18 groceries for its mercury testing, each store sold the gourmet cans alongside the other cans of tuna, which often have similar labels.

The biggest difference is often price: The gourmet version can sell for \$1 more.

Burney said consumers who buy light tuna to avoid mercury exposure will not purchase the gourmet cans.

"I think price alone would stop you from getting it," he said, "and I think that it is only sold to people that know what they are getting."

The Tribune also reported that some yellowfin not used in gourmet cans is packaged and sold as regular canned light. Stiker told the Tribune that the industry often catches more yellowfin than it can sell in its gourmet line. So the remainder is sold as regular light tuna without any special labels.

Until recently, Stiker had been Bumble Bee's executive vice president of corporate development and a leading industry spokesman. He left the company Dec. 9, two days before the Tribune published its mercury series. Stiker and Bumble Bee said he was leaving on good terms to head a small coffee company.

Spokesman contradicted

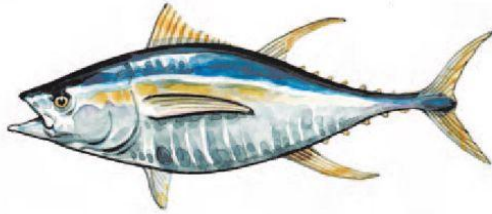
When the Tribune first contacted the Tuna Foundation in July for comment regarding the mercury issue, the lobbying group referred the newspaper to Stiker. But the Tuna Foundation now says it disagrees with a statement Stiker made repeatedly in interviews with the newspaper: that it is an industrywide practice to put yellowfin that cannot be sold as a gourmet product into regular canned light.

StarKist and Chicken of the Sea referred questions to the Tuna Foundation. Burney said that while he did not know for sure how Bumble Bee handled yellowfin, StarKist and Chicken of the Sea did not add any fish to regular canned light that would raise the average mercury levels.

He said that when those two companies catch tuna, they separate the large yellowfin from the small ones on the boats. The large yellowfin, which can be higher in mercury, are sent to canneries to be packed as a gourmet product. The small yellowfin, he said, are mixed with skipjack of comparable size and mercury levels, in order to make regular canned light.

Stiker declined to comment on the Tuna Foundation questioning his statements. "I'm done on this topic," he wrote in an e-mail.

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FDA tests show risk in tuna

U.S. agency finds high mercury levels in some cans and in samples of Chilean sea bass

**By Sam Roe
and Michael Hawthorne**

Tribune staff reporters

Newly released government data provide the best evidence to date that some cans of light tuna—one of America's favorite seafoods—contain high levels of mercury.

Testing by the Food and Drug Administration found that 6 percent of canned light tuna samples contained large amounts of mercury, a toxic metal that can cause learning disabilities in children and neurological problems in adults.

The findings are significant because the government has repeatedly stated that canned light tuna is low in mercury and a good choice for pregnant women and young children.

The FDA also found high mercury levels in samples of Chilean sea bass, which is often sold in high-end restaurants. Previously, the FDA had tested only one sample of the fish. High levels were detected in big-eye tuna, a species sold as ahi tuna and served in sushi.

No federal warnings exist for either fish, even though the average mercury level detected in the FDA tests was above the average in albacore tuna, which the

MERCURY: Tests prompt no action by officials

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government tells pregnant women and young children to limit eating.

In all, the FDA released testing results for more than 25 kinds of fish, sampled between 2001 and 2005. The findings were not released until now partly because the analysis wasn't complete, the agency said.

While a few species, such as tuna and Chilean sea bass (also known as Patagonian toothfish), were tested frequently in the latest round of sampling, many were not. Only one catfish, one flatfish, two mahimahi, four crabs and seven sardines were tested, the FDA data show.

On Thursday, the agency said it would not take any action based on its newly released results, which come at a time when the FDA has been under fire for not adequately policing mercury in seafood, particularly canned light tuna. Most light tuna is made with skipjack, a relatively low-mercury species. But a Tribune investigative series recently reported that the U.S. tuna industry often uses a high-mercury species, yellowfin, to make some cans of light tuna.

Toxic metal high in samples

The FDA had been unaware of the practice, so the agency's latest testing did not address the yellowfin issue. Responding to the Tribune series, though, FDA officials started investigating whether canned light tuna contains hazardous mercury levels.

In the 216 samples of canned light tuna tested by the FDA, the mercury levels averaged 0.12 parts per million, in line with previous limited testing and well below the legal limit of 1.0 parts per million. But 12 samples exceeded 0.35 parts per million, an amount the government considers high. When the Tribune recently tested 36 cans of the same type of canned tuna, none of the samples exceeded that level. The discrepancy might be due to the difference in sample size or because mercury

FDA updates mercury findings

New mercury testing results recently posted to the FDA's Web site show increases in readings for swordfish and yellowfin tuna. Chilean sea bass and bluefish also tested at high levels.

MERCURY LEVELS

New testing averages
In parts per million, for 2001-05

FISH	SAMPLES	AVERAGE	Previous FDA test results, 1990-2003	SAMPLES	AVG.
Swordfish	13	1.31	605	0.97	
Big eye tuna	9	0.62	4	0.68	
Chilean sea bass	39	0.38	1	0.70	
Canned albacore tuna	220	0.35	179	0.35	
Bluefish	30	0.35	22	0.31	
Yellowfin tuna	68	0.34	23	0.27	
Halibut	14	0.23	32	0.26	
Red snapper	18	0.19	25	0.19	
Freshwater trout	17	0.11	17	0.03	
Canned light tuna	216	0.12	131	0.12	
Atlantic croaker	14	0.10	21	0.05	
Cod	19	0.08	20	0.11	
Crawfish/crayfish	23	0.04	21	0.03	

Source: FDA data

Note: Some newly released test results date back several years.

Chicago Tribune

MERCURY THRESHOLDS

Amount that prompted FDA warning*

0.35

Legal limit for fish sold in Canada

0.50

Legal limit for fish sold in the U.S.

1.0

* In 2004, the FDA warned children and pregnant women to limit their consumption of canned albacore tuna because it has averaged 0.35 parts per million of mercury in FDA testing.

levels can vary widely in all fish.

When asked about the FDA's latest testing results on light tuna, an agency official said consumers should not be concerned that 6 percent of canned light tuna tested high in mercury. What's important, the official said, is that on average, such tuna tested relatively low.

The official, who answered questions on the condition of anonymity, also said the results for all fish tested indicate that mercury levels in commercial seafood were "relatively stable" compared with previous testing.

But many scientists said consumers should be concerned about mercury contamination even in fish that on average test low in the toxic metal. Though it is unclear whether a single high-mercury meal could harm a fetus, many experts said the developing nervous system is so sensitive to toxic substances that caution should prevail.

"I give a lot of talks to parents, and they always ask what is a

safe fish to eat. I tell them I cannot give them an honest answer," said Vas Aposhian, a University of Arizona toxicologist who resigned from an FDA panel that advised the agency as it crafted its 2004 mercury warning for seafood. He accused the FDA of minimizing the risks and bowing to industry pressure.

Of the five seafoods listed in FDA warnings as low-mercury options—shrimp, canned light tuna, salmon, pollock and catfish—only light tuna occasionally tests in the high range.

Many of the FDA's new mercury results were from samples taken several years ago. An agency spokesman said results are not released to the public until "the analysis is completed and the quality assurance has been completed. Sometimes that process can be delayed." All the FDA data can be found at www.cfsan.fda.gov/~ftr/seamehg2.html.

Tuna industry calls food safe

The U.S. Tuna Foundation,

the industry's leading lobbying group, said the FDA's new data actually confirm the safety of canned light tuna.

"FDA's latest findings about mercury levels in canned tuna should end the debate over whether canned tuna is a safe and healthy food for all Americans," David Burney, the foundation's executive director, said in a statement. "No one is at risk from the minute amounts of mercury in any form of canned tuna."

Medical experts and the U.S. government disagree.

In 2004, the FDA and the U.S. Environmental Protection Agency jointly warned high-risk consumers to eat no more than 6 ounces of albacore canned tuna per week because of high mercury levels.

Even if women of childbearing age and young children followed that suggestion, the EPA's own calculations show they would absorb too much mercury.

In addition, the tuna industry acknowledges that tens of mil-

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—Vas Aposhian, a University of Arizona toxicologist who resigned from an FDA panel that advised the agency as it crafted its 2004 mercury warning for seafood



Tribune photo

lions of cans of light tuna are made each year with yellowfin and contain amounts of mercury equal to cans of albacore. These yellowfin cans are often marketed as gourmet light tuna, though most cans do not indicate that yellowfin is inside.

Among the fish testing relatively low in mercury in the FDA's latest round of tests was tilefish, a species the agency warns pregnant women and young children not to eat.

Previous testing in the Gulf of Mexico found high mercury levels in tilefish. The latest samples came from waters off the Atlantic Coast, raising questions about the reliability of the FDA's consumer advice.

"They don't fully understand levels of mercury in fish and they're trying to provide advice to people based on shoddy science," said Jane Houlihan, vice president for research at the Environmental Working Group, a non-profit organization that has criticized the FDA's mercury policy.

Doubt cast on FDA warnings

The FDA's recent testing of fresh and frozen tuna raises additional questions about the agency's warnings.

Samples of yellowfin and big-eye tuna showed high levels of mercury, the FDA data indicated. One sample of yellowfin tuna was over the legal limit of 1 part per million. Samples of big-eye averaged 0.62 parts per million, among the highest of any fish sold.

An industry spokesman previously told the Tribune that high-mercury yellowfin and big-eye are used in gourmet and regular canned light.

The Tuna Foundation maintains that only small yellowfin and big-eye are used in the regular cans.

In general, larger fish such as tuna and longer-lived fish such as Chilean sea bass are higher

in mercury because they can eat more food contaminated with it.

Just how much mercury might be in a single can of tuna is unclear. That is because the FDA does not test individual cans. Instead, it removes small pieces of tissue from 12 cans and mixes the tissue together. The agency then tests the mixture, masking any extreme amounts of mercury in a single can. This is done with other fish species as well.

Testing method questioned

In the FDA's recent testing, one sample of light tuna showed mercury levels of 0.72 parts per million—a high amount but still within the 1.0 legal limit. But because this result was a composite of 12 cans, it is likely that some of the individual cans had higher levels.

It is impossible to know whether one of those cans tested over the legal limit.

The FDA said it tests a mixture of cans rather than individual cans partly to save money.

"It would cost 12 times as much to test 12 separate cans and then average the data, which is what we would have to do," said the FDA official who requested anonymity.

That methodology troubles some doctors.

"I find that incredibly disturbing," said Jane Hightower, a San Francisco internist who treats patients with mercury-related ailments. "That is falsifying data as far as I am concerned."

Hightower also said the FDA should do a better job of informing consumers about high mercury levels in Chilean sea bass and other fish.

"This information should be made available to the public in a user-friendly format and not buried in the depths of an Internet Web site," she said.

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