Brominated Vegetable Oil in Gatorade?

Garance Burke, Associated Press

SAN FRANCISCO (AP) -- When PepsiCo Inc. announced it would stop putting an obscure vegetable oil in its Gatorade right before the Super Bowl, one of the loudest cheers came from a high school student who had made it her mission to get rid of the ingredient.

"I was like, 'Whoa,'" said Sarah Kavanagh, a 16-year-old from Hattiesburg, Miss., who wanted to know how an oil that contains a chemical also found in flame retardants got into her favorite sports drink. After she posted a petition on Change.org asking Pepsi to remove it, more than 200,000 people signed.

"I just wanted to make sure it was something that I could drink," said the teen.

From oil in Gatorade to the amount of caffeine and other stimulants in energy drinks and the so-called "pink slime" found in beef, previously unnoticed ingredients are coming under scrutiny as health-conscious consumers demand more information about what they eat and drink, and sometimes go public via social networking and the Internet.

So how does some of this stuff get into our food?

The U.S. Food and Drug Administration reviews and approves most additives to food or drinks before they hit the marketplace. But others can bypass that process if they are deemed "generally recognized as safe" by the government or food companies and the experts they hire.

Take the story of Gatorade.

Developed in 1965 at the University of Florida to help football players keep hydrated in the heat, Gatorade was an immediate hit. By 1969, a private company acquired rights to market the drink and started adding brominated vegetable oil to distribute flavor evenly in a new orange version.

In those days, the oil was included in a list of additives, preservatives and chemicals that the government calls "generally recognized as safe." The "GRAS" designation took root more than a half-century ago as a way to help the processed food industry avoid lengthy reviews for ingredients that were considered, by qualified experts, to be safe under conditions of intended use.

Then, the list included ingredients such as vitamin A and citric acid — about 180 in all.

Today, as food scientists create more and more new ingredients to add health benefits or help food stay fresh, there are at least 4,650 of these "generally

recognized as safe" ingredients, according to the nonpartisan Pew Charitable Trusts. The bulk of them, at least 3,000, were determined GRAS by food manufacturers or trade associations, and their expert scientists.

But no one knows exactly how many "GRAS" ingredients are in products because manufacturers are not required to notify the FDA before adding them.

BVO was on the "safe" list when Stokely-Van Camp Inc. developed orange-flavored Gatorade in 1969. The FDA notes that BVO contains far less bromine than flame retardants and is considered safe for use in limited quantities in fruit-flavored drinks. It is used to emulsify citrus oil in fruit-flavored beverages including Mountain Dew, Fanta and Powerade.

The ingredient, which is banned as an additive in Japan and the European Union, will remain in orange Gatorade through this spring, said spokeswoman Molly Carter of PepsiCo, which now owns Gatorade. She added that the decision to drop it was sparked by consumer rumblings over the past year, not Kavanagh's petition specifically.

"While our products are safe, we are making this change because we know that some consumers have a negative perception of BVO in Gatorade," Carter said in a statement.

In 1958, Congress amended the Federal Food, Drug, and Cosmetic Act to establish the "generally recognized as safe" exemption. In the following years, FDA added ingredients to its "safe" list after reviewing the supporting science. However, that proved a time-consuming process, so in 1997 FDA changed its procedures to allow food companies to voluntarily notify the agency of ingredients they consider safe by submitting published research and expert opinion. Not all do. But since 1997, the FDA has received 451 such notifications, and the agency disagreed with the science in 17 cases.

Industry associations say the process saves the government money and supports innovation by reducing red tape. Representatives also say manufacturers have every incentive to make their products safe.

However, even if the FDA disagrees with the supporting science, current law provides no clear recourse to stop companies from adding these GRAS ingredients to food products.

That was the case with a hemp seed ingredient that biologist Vyacheslav Dushenkov notified FDA about in 1999, when he worked for a now-defunct company that wanted to sell hempseed oil and powder.

The FDA rejected his scientific work in 2000, saying Dushenkov's anecdotal and historical examples of the medicinal use of hemp did not prove it was safe for use in food, but Los Angeles-based Chronic Ice Tea now cites Dushenkov's research in a blog advertising drinks made with hempseed powder.

"We were just quoting it to bring awareness to all the scientific work that has already gone on around hemp safety," said Michael Stweart, the company's chief operating officer who says hempseed ingredients have health benefits similar to those of fish oil.

If FDA suspects an ingredient deemed "safe" is actually harmful, the government can take action after a product hits the market, but it does not track how often that has happened. In one case, in 2010, the agency issued warning letters to four makers of popular caffeinated alcoholic drinks, declaring caffeine unsafe in alcoholic beverages. Under threat of product seizure, the companies stopped making the drinks.

Consumers may also petition the FDA to take an ingredient off the "safe" list, although a report by the Government Accountability Office found those requests can take years to review.

Earlier this year, the FDA proposed sweeping new food safety rules regarding contamination of food in the wake of recent listeria and salmonella outbreaks, but no changes were proposed to the GRAS system.

Michael Taylor, FDA deputy commissioner for foods, said in an interview that he feels the program works well but that it is time to consider updating it to ensure the evidence supporting "safe" designations reflects the latest science. He added that FDA would benefit from having access to the scientific evidence companies use to determine that an ingredient is GRAS.

"We're not driven by a sense that there is a pressing public health emergency," Taylor said. "But there are decisions being made based on data that we don't have access to, and that creates a question about the basis on which those decisions are made."

In 1969, President Richard Nixon ordered FDA to review food additives then on the "safe" list. While concluding most ingredients were safe, the review panel questioned the safety of 35 substances. In its 2010 examination of the program, the GAO found FDA had yet to review 18 of those. The agency could not readily explain why, but has in the past pointed to short staffing.

The GAO also recommended that companies be required to tell FDA and the public about any ingredients they deem "safe," and that FDA take steps to prevent scientific conflicts of interest.

Taylor said that over the next year FDA may send out new administrative rules detailing how companies should demonstrate ingredient safety, but he noted it would take an act of Congress to force companies to share all their information with FDA.

George Washington University's Public Health Dean Lynn Goldman, who in 2011 studied the GRAS program at FDA's request, believes letting companies evaluate their own ingredients risks biased science. "The public should expect that the FDA

can give some assurance that the safety of our food is not simply determined by the industry," she said.

Recent reports of deaths after the consumption of energy drinks or shots have prompted U.S. Sens. Dick Durbin and Richard Blumenthal, Democrats from Illinois and Connecticut, to ask the FDA to investigate whether specific stimulants in the drinks can be harmful, including some deemed GRAS by beverage makers. FDA has not determined what caused the deaths.

Carl Keen holds the chair in developmental nutrition at the University of California, Davis — a position funded by Mars, Inc. As such, Keen develops new ingredients for the candy giant, and his research has found that certain nutrients in cocoa powder can lower heart disease risk.

He and other food scientists said the GRAS process is an efficient way to get beneficial new additives to consumers and that companies apply the highest safety standards.

"You'll have the average consumer say industry research taints the system," he said. "But if you ask them should the federal government be vetting research on the health benefits of chocolate and cocoa, they'll probably say no."