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FSSAI proposes to allow bromates in drinking water

WHO says water should not have the carcinogenic chemical. FSSAI recently said it would ban the same toxin in breads



In January, the Food Safety and Standards Authority of India (FSSAI) proposed that bromates, a probable cancer-causing chemical, be permitted to an extent in bottled drinking water. This is the same chemical that the Centre for Science and Environment claims to have found in some bread products after lab tests. Subsequently, FSSAI announced it would ban bromates in breads.

The existing standards for packaged drinking water, set in 2011, strictly prohibited bromates. But, in a proposal put out in January for public comments, FSSAI proposed that up to 10 micrograms of bromates per litre of water be allowed as a contaminant. The 30-day comment period for the proposal is over.

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Bromates are found in breads if potassium bromate - cheaper alternative to Ascorbic acid or Vitamin C - is used for strengthening the dough. Among the major developed countries, the US is one of the few that allow use of potassium bromate in bread making. Most others, including the European Union and Canada, do not. Many developing countries have also banned the use of bromates in bakery products.

In water, bromates are formed when it is treated using ozone as a disinfectant. The World Health Organization (WHO) recommends that bromates not be present in packaged drinking water. It's recommendatory CODEX Alimentarius - a global scientifically produced list of what is safe to eat and how - says, "All treatments of water intended for bottling should be carried out under controlled conditions to avoid any type of contamination, including the formation of toxic by-products (particularly bromates)."

Many countries permit bromates in water to the smallest possible level, based on standards set in the past decade, as detection levels are a constraint. Most countries have set better standards than the one proposed by FSSAI.

All countries tend to toughen standards with time if the toxicity of products remains confirmed.

FSSAI did not respond to a detailed questionnaire sent by *Business Standard*.

Going by the WHO recommendations, so far, India had the best standards for bromates in drinking water - it was not allowed at all

This was tough to maintain unless it had the testing methods in place to detect the minimal levels of bromates in water. Since 2007, United Kingdom allows up to three micrograms of bromates per litre of water.

EU allows 10 micrograms bromates per litre, though its standards were set in 1998. The EU directive said, "Where possible, without compromising disinfection, Member States (EU countries) should strive for a lower value." The US also allows 10 micrograms per litre of bromates in packaged drinking water.

The original absolute prohibition of bromates, as per the 2011 Indian regulations, may have had a problem of enforcement. A ban works only to the point that a contaminant can be detected in a product or the agent causing it - in this case

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disinfecting through ozone. In the case of bread-making, other options, though expensive, are available.

Earlier, laboratories could only detect the presence of bromates above 10 micrograms per litre of water with consistency. But technology has improved drastically. In 2014, the US scientific authorities under the Environment Protection Authority approved standard testing methods to detect bromates at concentration levels as low as 0.02 micrograms per litre - five hundred times less than the standard set under the proposed FSSAI notification. Bromates above 5 micrograms per litre of water are also detectable through 'ion chromatography with conductivity detection methods'. The global trend in food safety regulations is to tighten the standards for dangerous or unsafe contents and contaminants as the science of detecting them improves with time and safer alternatives are found. The only time standards are made lax is when new science clearly proves that the danger from the food may have been over-estimated. In cases where some contaminants are extremely dangerous, even with short-term exposure, such contents are expressly banned.

There is no proof as yet that bromates cause harm in short exposures but for long-term exposure it is classified as a probable carcinogen for humans

The FSSAI has scientific panels on different classes of foods and food safety related issues that recommends new standards periodically for different components and additives. Under the Food Safety and Standards Act, the FSSAI is required to look at the best of standards and practices available internationally and use them unless it scientific evidence that proves safety at higher levels of contamination shall work for Indian conditions.

After the CSE released its lab results on bread, FSSAI CEO Pawan Kumar Agarwal said, "A scientific panel had recommended removal of potassium bromate from the list of additives. So we have already decided to take it out from the list. Soon, it will be notified." The scientific panel for cereals, in which baking products are also included, last met in December 2015, as per FSSAI records. It is not known if the panel then considered the issue of bromate. The FSSAI has an apex scientific committee, made up of chairs of all scientific panels and more independent experts, which is meant to ensure harmonious standards across all food products and those issues that are multi-sectoral in nature, such as bromate. It is not known if the committee met and considered the concerns about bromate or not in water and bakery products.

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Such coordination is necessary because standards for how much contaminant should be permitted in a particular product are also linked to nutritional values of each food product. Generally, the logic globally is to keep the standards strictest for products that are not nutritious, say junk food, and for products that sell based on claims of higher quality than unpackaged naturally found versions, such as packaged drinking water. These standards have to be squared off against how much of a particular unsafe chemical the human body can be exposed to over a lifetime through consumption of specific food products, which is projected by looking at the essential average diet mix in a region.
