CENTER FOR Science IN THE Public Interest
Your Food and Health Watchdog

July 13, 2026

Kyle Diamantas, J.D.
Acting Commissioner of Food and Drugs
US Food and Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993

RE: Butylated Hydroxytoluene (BHT); Request for Information (Docket No. FDA-2026-N-2526-0001)

Dear Acting Commissioner Diamantas,

The Center for Science in the Public Interest (CSPI) respectfully submits these comments in response to Docket No. FDA-2026-N-2526-0001. We appreciate the agency's ongoing commitment to reforming the post-market assessment system for evaluating food chemical safety. CSPI is encouraged to see the agency initiate a post-market evaluation of butylated hydroxytoluene (BHT) following its inclusion in the FDA's List of Select Chemicals in the Food Supply Under FDA Review.

CSPI is a non-profit consumer education and advocacy organization that has worked since 1971 to improve the public's health through better nutrition and safer food. CSPI has an extensive history of advocating for policies that aim to improve the nutritional quality and safety of foods and beverages in the U.S.

Serious concerns about the safety of BHT have emerged over the past several decades, including from the FDA itself, yet it remains legal for use in food in the US. BHT is approved for use as an antioxidant, flavor enhancer, and flavoring agent or adjuvant.[1] There is evidence that BHT causes cancer in animals, which should preclude the agency from approving its use in food under the Delany Clause, which prohibits the FDA from approving the use of additives that induce cancer in humans or animals.

Uses of BHT are regulated under the agency's "Generally Recognized as Safe" regulations as GRAS substances. Courts have not ruled on the question of whether the Delaney Clause applies to GRAS substances, though at least one lower-level court has rejected the argument that GRAS self-certification inherently runs afoul of the Delaney Clause,[2] and FDA's finalized framework for

[1] US Food and Drug Administration. Substances Added to Food (formerly EAFUS): BUTYLATED HYDROXYTOLUENE. Available: https://www.hfpappexternal.fda.gov/scripts/fdcc/index.cfm?set=FoodSubstances&id=BUTYLATEDHYDROXYTOLUENE&sort=Sortterm_ID&order=ASC&startrow=1&type=basic&search=bht

[2] Ctr. for Food Safety v. Becerra, 565 F. Supp. 3d 519, 542-43 (S.D.N.Y. 2021). Available: https://www.cspi.org/sites/default/files/2021-11/GRAS%20District%20Court%20Decision.pdf

post-market assessment adopts that interpretation as well. Appellate courts have not considered the question. We argue that this interpretation defies legislative intent; Congress clearly intended for novel food substances to come to market via the FDA pre-market approval process, not the GRAS process, and therefore, through the Delaney Clause, clearly intended for carcinogenic substances to be prohibited from use in food. It defies common sense for substances not reviewed by FDA (secret GRAS substances) to be subject to a lower standard than the ones FDA actually reviews. Therefore, FDA should declare that BHT is not GRAS on the basis of the cancer evidence, which we review below.

Carcinogenicity of BHT

There is evidence that BHT causes cancer in experimental animals. Olsen et al. 1986 reported BHT-induced tumor formation (specifically hepatocellular carcinoma) in a two-generation rat study.[3] The incidence of carcinoma in the highest dose group of males was 8/99, whereas the incidence of carcinoma in the control group was 1/100. The spontaneous incidence of hepatocellular neoplasms in historical controls is <3% per JECFA[4], meaning BHT-induced incidence exceeded historical controls. If the Delaney Clause were applied to GRAS chemicals, FDA would be prohibited from approving the use of BHT in food. At a minimum, FDA has the obligation to conduct a thorough cancer hazard evaluation for BHT and, if reaching a divergent conclusion from other authorities (see below), clearly articulate its rationale and subject its evaluation to external review.

Carcinogenicity Evaluations by Other Authorities

The European Food Safety Authority (EFSA) in its 2012 evaluation of BHT, in considering these results alongside what it asserted was a lack of genotoxicity, determined that the tumor incidence reported by Olsen et al. is a thresholded effect.[5] Per EFSA's assessment, the dose associated with a 10% increase in cancer risk is 247 mg/kg bw/day, which it determined was higher than the no observed adverse effect level (NOAEL) for non-cancer endpoints (see below). Thus, EFSA concluded that BHT caused cancer in animals. Due to differences in regulatory framework, however, which in Europe do not require a blanket ban on carcinogens in the food supply, this conclusion did not necessitate a ban in the EU, but in the US it would.

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[3] Olsen P, et al. Carcinogenicity Study on Butylated Hydroxytoluene in Wistar Rats Exposed In Utero. *Food Chem Toxicol.* 1986; 24: 1-12. Available: https://pubmed.ncbi.nlm.nih.gov/3949264/

[4] Joint FAO/WHO Expert Committee on Food Additives. WHO Food Additives Series 35. World Health Organization. International Programme on Chemical Safety. 1996. Available: https://inchem.org/documents/jecfa/jecmono/v35je01.htm

[5] European Food Safety Authority. Scientific Opinion on the Re-evaluation of Butylated Hydroxytoluene–BHT (E 321) as a Food Additive. EFSA Journal 2012;10(3):2588. Available: https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2012.2588

EFSA further reports in its 2012 evaluation, that lung neoplasia were also observed in mice treated with BHT in an unpublished study provided to JECFA. EFSA's benchmark dose (BMD) modeling resulted in a benchmark dose level of 10% (BMDL10) of 38 mg/kg bw/day. In another study, there was a statistically significant increase in the incidence of hepatocellular adenoma but not hepatocellular carcinoma in male mice (no increased incidence in females). Another two-generation rat study (Price, 1994) was published with the goal, per EFSA, of elucidating the mechanisms by which BHT caused hepatocellular carcinoma in the earlier study. One difference between this study and Olsen et al. 1986 is that dosing began only 3 weeks before mating as opposed to 13 weeks prior to mating in Olsen et al. 1986. This study apparently did not observe any induction of tumors from BHT (EFSA is somewhat unclear on this matter) but observed a variety of other effects on the liver and the thyroid.

A number of studies have also evaluated the ability of BHT to promote tumors induced by other carcinogens. After evaluating these studies, EFSA concluded "that BHT in high doses can exert tumour-promoting effects in some animal models. The data do not allow the establishment of a NOAEL for a carcinogen-promotional effect".

The International Agency for Research on Cancer (IARC) evaluated the carcinogenic hazard of BHT in 1986 (i.e., after the positive rat study by Olsen et al.), concluded that there was "…*limited evidence* for the carcinogenicity of butylated hydroxytoluene in experimental animals" and classified it as Group 3, "not classifiable as to its carcinogenicity to humans".[6] Regarding Olsen et al. 1986, the IARC monograph notes that differences in survival prevented the working group from drawing conclusions about the significance of the observed tumor incidences (only 16-17% of controls survived to the conclusion of the study, while 39-44% of treated animals survived)[7].

A 2002 report by the Organisation for Economic Co-operation and Development (OECD) stated "BHT is not a genotoxic carcinogen... However, it cannot be completely ruled out that the hepatotoxic effects caused by high and chronic doses of BHT may result in persistent cell proliferation, which is known as a possible mechanism of non-genotoxic carcinogens."[8]

[6] International Agency for Research on Cancer (IARC). Summaries & Evaluations: Butylated Hydroxytoluene (BHT). 40 (1986); 161. Available: https://inchem.org/documents/iarc/vol40/butylatedhydroxytoluene.html
[7] International Agency for Research on Cancer (IARC). IARC Monographs on the Evaluation of the Carcinogenic Risks of Chemicals to Humans: Some Naturally Occurring and Synthetic Food Components, Furocoumarins and Ultraviolet Radiation. 1986;40. Available: https://publications.iarc.who.int/58.
[8] Organization for Economic Cooperation and Development (OECD). 2,6-di-tert-butyl-p-cresol (BHT) CAS No: 128-37-0. United Nations Environment Programme. February 2002. Available: https://hpvchemicals.oecd.org/UI/handler.axd?id=6d30349e-ef9f-496c-a2af-6d497d4f1cca

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Non-Cancer Health Effects of BHT

FDA's Select Committee on GRAS Substances (SCOGS) evaluated the safety of BHT in food in 1973 and stated that "More information is required on the inducing properties of BHT on extra hepatic organs."[9] SCOGS also discussed BHT in its 1978 evaluation of butylated hydroxyanisole (BHA), a closely related chemical; SCOGS reiterated its previous concern about BHT and noted that questions regarding BHT's "long-term effects on liver mixed function oxidase systems" were more urgent for BHT than BHA.[10] Since then, chronic studies indicate changes in the smooth endoplasmic reticulum "…consistent with an induction of mixed-function oxidases".[5]

Until questions about the ability of BHT to impact liver enzyme function are resolved, a "reasonable certainty of no harm" has not been affirmatively established.

Additionally, the FDA's food chemical post-market assessment plan does not address if and how the FDA will consider the cumulative effects of chemically and pharmacologically related chemicals—as required by statute.[11] Both BHA and tert-butylhydroquinone (TBHQ) are sometimes used in conjunction with BHT in food formulations and are chemically related.[5] Such analyses must be conducted before a conclusion of "a reasonable certainty of no harm" can be reached.

Conclusions

While we are encouraged that the FDA is requesting information on the use and safety of BHT in food, BHT's continued use in the food supply despite evidence of carcinogenicity and uncertainties regarding other health effects is a good example of why FDA must move swiftly to implement its recently finalized framework for post-market assessment of food chemicals. We hope the FDA will move through that process and use its existing regulatory authorities to fulfill its public health mandate to ban BHT from food.

Sincerely,

[9] US Food and Drug Administration. Select Committee on GRAS Substances (SCOGS) Opinion: Butylated Hydroxytoluene (BHT). 1973. Available: https://wayback.archive-it.org/7993/20171031063105/https://www.fda.gov/Food/IngredientsPackagingLabeling/GRAS/SCOGS/ucm260875.htm

[10] US Food and Drug Administration. Select Committee on GRAS Substances (SCOGS) Opinion: Butylated Hydroxyanisole (BHA). 1978. Available: https://wayback.archive-it.org/7993/20171031063106/https://www.fda.gov/Food/IngredientsPackagingLabeling/GRAS/SCOGS/ucm260874.htm

[11] 21 U.S. Code 348(c)(5)(B)

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