

August 2, 2024

Dockets Management Staff (HFA-305)  
Food and Drug Administration  
5630 Fishers Lane, Rm. 1061  
Rockville, MD 20852  
*Filed electronically via Regulations.gov*

Re: Hazard Analysis and Risk-Based Preventive Controls for Human Food: Draft Guidance for Industry; Appendix 1: Known or Reasonably Foreseeable Hazards (“Potential Hazards”) (FDA-2016-D-2343)

To whom it may concern:

Center for Science in the Public Interest (CSPI), “Your Food and Health Watchdog,”<sup>1</sup> submits this comment on the Food and Drug Administration (FDA’s) Draft Guidance for Industry, Appendix 1: Known or Reasonably Foreseeable Hazards (“Potential Hazards”) (hereinafter: “Appendix 1”).<sup>2</sup> We write to request that FDA include opiate contamination as a potential hazard for poppy seeds in Appendix 1.

The purpose of Appendix 1 is to help members of the food industry identify potential hazards as part of the hazard analysis required under federal rules.<sup>3</sup> Broadly speaking, these are food safety threats that are 1) known or reasonably foreseeable, and 2) of a nature that an expert would recommend preventive controls to significantly minimize or prevent the hazard.<sup>4</sup>

Appendix 1 should include opiate contamination of poppy seeds as a potential hazard because, as CSPI previously identified in a petition submitted to the agency in February of 2021,<sup>5</sup> opiates do pose such a hazard in poppy seeds.<sup>6</sup>

As described in CSPI’s petition, poppy seeds originate from the opium poppy, *Papaver somniferum*, a plant which can produce substantial amounts of naturally occurring opiate alkaloids, including morphine, codeine, and thebaine.<sup>7</sup> The seeds themselves contain no or

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<sup>1</sup> 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 food safety.

<sup>2</sup> Food and Drug Administration. Hazard Analysis and Risk-Based Preventive Controls for Human Food: Draft Guidance for Industry. Undated. <https://www.fda.gov/media/99581/download>. Accessed July 18, 2024. (Appendix 1).

<sup>3</sup> *Ibid.*

<sup>4</sup> 21 CFR § 117.3.

<sup>5</sup> Center for Science in the Public Interest. Citizen Petition to Establish a Maximum Limit of Opiate Alkaloid Contamination of Poppy Seeds and Ensure the Safety of Imported Poppy Seeds. February 5, 2021. [https://www.cspinet.org/sites/default/files/media/documents/resource/2.5.2021\\_Petition\\_to\\_Establish\\_Safe\\_Opiate\\_Limits\\_for\\_Poppy\\_Seeds.pdf](https://www.cspinet.org/sites/default/files/media/documents/resource/2.5.2021_Petition_to_Establish_Safe_Opiate_Limits_for_Poppy_Seeds.pdf) Accessed July 18. Accessed July 18, 2024.

<sup>6</sup> This comment does not present new data not already presented in that petition or seek to modify the actions requested in the 2021 petition.

<sup>7</sup> European Food Safety Authority Panel on Contaminants in the Food Chain, Knutsen HK, Alexander J, et al. Update of the Scientific Opinion on Opium Alkaloids in Poppy Seeds. EFSA J. 2018; 16(5):5243.

negligible levels of such opiates, but can become contaminated by opiate alkaloids if the seed capsule is damaged or if dust from the capsule is deposited on the seeds during harvesting or processing.<sup>8</sup>

Our petition also summarized how such contamination poses a potential hazard because high concentrations of opiate alkaloids in contaminated poppy seeds lead to the potential for ingestion of therapeutic or toxic doses.<sup>9</sup> In 2011, a panel convened by the European Food Safety Authority established an acute reference dose of 10 mcg of morphine equivalents/kg body weight per day (0.7 mg for a 70 kg adult).<sup>10</sup> This is “the dose of morphine from foods for which a person would not be expected to experience adverse effects following consumption of a single meal, or from total consumption over the course of a day.”<sup>11</sup> A study by Powers *et al.* found that morphine concentrations in commercially available poppy seed samples were high enough to yield 2,788 mg of morphine in a tea form from 1 kilogram (2.2 lbs.) of seeds, in addition to variable amounts of codeine and thebaine.<sup>12</sup> In addition, researchers from CSPI have documented at least 19 deaths attributable to opiate-contaminated poppy seeds or poppy tea, which can be derived from seeds, in the U.S.<sup>13</sup>

Finally, food safety experts have recommended preventive controls to mitigate this hazard. Notably, the European Commission in 2014 issued guidance for preventing and reducing opiate alkaloid contamination of poppy seeds, through responsible sourcing of seeds from low-opiate cultivars, as well as washing, heating, and if applicable, grinding, all of which can reduce opiate contamination to within acceptable levels, while preserving quality of the food.<sup>14</sup>

Considering these factors, we urge FDA to add opiate contamination as a potential hazard for poppy seeds in Appendix 1.

Finally, as a technical note, we request that the FDA include a publication date in the final version of Appendix 1, and in future updates of other related guidance. While the draft was published in January of 2024,<sup>15</sup> the date does not appear within the Appendix document itself. . Other chapters of the Hazard Analysis and Risk-Based Preventive Controls for Human Food

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<sup>8</sup> *Ibid.*

<sup>9</sup> Center for Science in the Public Interest, 2021.

<sup>10</sup> European Food Safety Authority Panel on Contaminants in the Food Chain, 2018.

<sup>11</sup> European Food Safety Authority Panel on Contaminants in the Food Chain, 2018.

<sup>12</sup> Powers D, Erickson S, Swortwood MJ. Quantification of Morphine, Codeine, and Thebaine in Home-Brewed Poppy Seed Tea by LC-MS/MS. *J Forensic Sci.* 2017. doi: 10.1111/1556-4029.13664.

<sup>13</sup> Greenthal E, Lurie P, Doyon S. Opioid exposure associated with poppy consumption reported to poison control centers and the U.S. Food and Drug Administration [published online ahead of print, 2021 Jan 12]. *Clin Toxicol (Phila).* 2021;1-14.

<sup>14</sup> The European Commission. Commission Recommendation of 10 September 2014 on Good Practices to Prevent and to Reduce the Presence of Opium Alkaloids in Poppy Seeds and Poppy Seed Products. *Official Journal of the European Union.* 2014; 662:96-100.

<sup>15</sup> Food and Drug Administration. Hazard Analysis and Risk-Based Preventive Controls for Human Food; Draft Guidance for Industry; Availability. *Federal Register*; 2024;89:7315-7317.

guidance are similarly undated.<sup>16</sup> Including publication dates within each standalone section of the guidance will allow members of the public to more easily discern the date of publication for each section and distinguish between versions as FDA continues to develop and update its guidance.

For questions related to these comments, please contact CSPI at [regulatory@cspinet.org](mailto:regulatory@cspinet.org).

Sincerely,



Sarah Sorscher

Director of Regulatory Affairs  
Center for Science in the Public Interest

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<sup>16</sup> See, e.g. Hazard Analysis and Risk-Based Preventive Controls for Human Food: Draft Guidance for Industry. Chapter 11: Food Allergen Program. Undated. Available at: <https://www.fda.gov/media/172318/download?attachment>. Accessed July 18, 2024.