



Notice of Modification to Add Maximum Levels for Inorganic Arsenic in Polished (White) and Husked (Brown) Rice to Part 2 of the *List of Contaminants and Other Adulterating Substances in Foods*

Notice of Modification – *List of Contaminants and Other Adulterating Substances in Foods*

Reference Number: NOM/ADM C-2020-1

June 5, 2020



Summary

Food contaminants and other adulterating substances are chemicals that may be present in foods at levels that could impact the overall safety and/or quality of foods. Establishing maximum levels (MLs) is a form of risk management that may be employed to reduce exposure to a particular chemical contaminant in food sold in Canada. Canadian prohibitions and MLs for chemical contaminants in food are set out in Part 1 and Part 2, respectively, of the [List of Contaminants and Other Adulterating Substances in Foods](#), which is incorporated by reference into section B.15.001 of Division 15 of the [Food and Drug Regulations](#) (the Regulations). Maximum levels are also set out in the [List of Maximum Levels for Various Chemical Contaminants in Foods](#), which is maintained on Health Canada's website. All prohibitions and MLs for contaminants in food are established by Health Canada's Food Directorate and are enforceable by the Canadian Food Inspection Agency.

On June 14, 2019, Health Canada published a [Proposal to Add Maximum Levels for Inorganic Arsenic in Polished \(White\) and Husked \(Brown\) Rice to the List of Contaminants and Other Adulterating Substances in Foods \[NOP/ADP C-2019-2\]](#). The proposal was open for public comment for 75 days and closed on August 27, 2019. Responses to submitted comments are summarized in the "Notification – Summary of Comments" section, below.

As no new scientific information was received that would alter the approach described in the Notice of Proposal, Health Canada has added MLs of 0.2 ppm and 0.35 ppm for inorganic arsenic in polished (white) and husked (brown) rice, respectively, to Part 2 of the [List of Contaminants and Other Adulterating Substances in Foods](#), as shown in the table below. These MLs also apply to white and brown rice when used as ingredients in other foods.

Modification to Part 2 of the [List of Contaminants and Other Adulterating Substances in Foods](#)

Item No.	Column 1 Substance	Column 2 Food ¹	Column 3 Maximum Level
1.2	Arsenic, inorganic (sum of arsenite (As III) and arsenate (As V))	(1) Husked (brown) rice	(1) 0.35 p.p.m.
		(2) Polished (white) rice	(2) 0.2 p.p.m.

¹Maximum levels also apply to the food when it is used as an ingredient in other foods.

Corrective Modification

Item No. 1 in Part 2 of the [List of Contaminants and Other Adulterating Substances in Foods](#) has been renumbered to Item No. 1.1. In Column 1 for this item, the word 'total' was added after the word 'arsenic', such that the newly numbered Item No. 1.1, Column 1, now reads 'Arsenic, total'. This corrective modification provides clarity as some MLs in the List apply to total arsenic and the MLs for arsenic in rice (Item No. 1.2 in the List) apply to only the inorganic arsenic species.

Rationale

As described in the Notice of Proposal ([NOP/ADP C-2019-2](#)) arsenic is naturally occurring in the environment; therefore, very low levels are present in various foods. Long-term exposure to elevated levels of inorganic arsenic can contribute to a possible increased risk of certain cancers and other non-cancer effects. Health Canada is committed to ensuring that dietary exposure to food contaminants is as low as reasonably achievable. Rice represents a significant source of exposure to inorganic arsenic in the diet of Canadians. Surveillance data available to Health Canada indicate that these MLs are readily achievable for rice and rice products available for sale in Canada.

The MLs of 0.2 ppm and 0.35 ppm for polished (white) and husked (brown) rice, respectively, will help minimize dietary exposure to inorganic arsenic by ensuring that levels in rice and the rice portion of rice-containing food products sold in Canada remain low.

Other Relevant Information

Other food safety organizations worldwide have implemented risk management measures for arsenic in rice. Health Canada's MLs of 0.2 ppm and 0.35 ppm for inorganic arsenic in polished (white) and husked (brown) rice, respectively, align with the MLs established for inorganic arsenic (sum of As III and As V) in both types of rice by the Codex Alimentarius Commission ([STAN 193-1995](#)) and the European Commission's ML for arsenic in non-parboiled milled rice (polished or white rice) ([Commission Regulation 2015/1006](#)).

Notification – Summary of Comments and Health Canada’s Responses

Health Canada received 9 comments in response to the Notice of Proposal ([NOP/ADP C-2019-2](#)), including comments from Ontario Dietitians in Public Health, Dietitians of Canada, the Canadian Paediatric Society and Food & Consumer Products of Canada. The balance of comments were received from the Canadian public. In general, all comments received supported Health Canada’s proposal to establish MLs for inorganic arsenic in polished (white) and husked (brown) rice.

Some of the comments from the public asked for additional information relating to the presence of inorganic arsenic in rice and rice-containing foods sold in Canada, if Canadians should avoid these foods, and how levels of arsenic in these food products can be reduced.

With respect to the presence of inorganic arsenic in rice, surveillance data available to Health Canada show that rice and rice-containing products sold in Canada contain low concentrations of inorganic arsenic that are below the MLs. Canadians do not need to avoid rice and rice-containing foods and are encouraged to consume a variety of whole grain foods, which could include brown rice, according to the recommendations from [Canada’s Food Guide](#). In terms of how levels of arsenic can be reduced, the Codex Committee on Contaminants in Food has developed the Code of Practice for the Prevention and Reduction of Arsenic Contamination in Rice ([CXC 77-2017](#)), which includes information on arsenic reduction for both rice growers and consumers.

Food & Consumer Products of Canada asked for clarity on the arsenic species and the rice products to which these MLs would apply, and the analytical method for inorganic arsenic used by Health Canada.

The Department’s MLs are based on the concentration of inorganic arsenic species (sum of arsenite, As III, and arsenate, As V) as they are recognized as the species of greatest toxicological concern to human health. The MLs apply to all types (e.g. parboiled, jasmine, long grain) of polished (white) and husked (brown) rice sold in Canada. The MLs for rice also apply to the rice portion of rice-containing products such as white or brown rice-based pasta, rice cakes, and flavoured rice side dishes. Questions related to official methods to test for inorganic arsenic for compliance purposes should be directed to the [Canadian Food Inspection Agency](#), which is responsible for compliance monitoring and enforcement of MLs established by Health Canada.

Ontario Dietitians in Public Health, Dietitians of Canada, and the Canadian Paediatric Society noted that Health Canada has yet to update its ML for arsenic in apple juice.

Health Canada put forward a proposal to lower the ML for arsenic in apple juice in 2017, ([NOP/AVP-C-2017-1](#)). As described in the Notice of Modification ([NOM/ADM-C-2017-1](#)), the Department felt it needed to consider comments received during the consultation period before finalizing the ML for arsenic in apple juice. Health Canada is currently working on a proposal to update the existing MLs for arsenic in all types of fruit juice and fruit nectar.

Comments from the public as well as those from the Ontario Dietitians in Public Health, Dietitians of Canada and the Canadian Paediatric Society indicated support for additional risk management measures for arsenic in rice-containing products intended for infants and young children.

Additional Information Request – Rice-Based Foods Intended for Infants and Young Children

As described in the Notice of Proposal ([NOP/ADP C-2019-2](#)), Health Canada is also considering additional, more protective, risk management measures for rice-containing foods intended specifically for infants and young children. There is evidence that exposure to high levels of inorganic arsenic during critical windows of early development may pose a risk for infants and young children.

As part of the Notice of Proposal Health Canada invited interested stakeholders from the food industry and public to submit data or information on arsenic levels, reduction strategies, or other relevant information pertinent to arsenic in rice-based foods for infants and young children that would inform possible future risk management measures. In response, as noted above, Health Canada received comments supporting additional risk management for rice-based foods for infants and young children, however, no new scientific information was submitted.

The Canadian Food Inspection Agency is completing a targeted survey for rice-containing foods intended for infants and young children. Health Canada will consider these survey results and any other pertinent information to determine whether additional risk management measures for rice-containing products intended for infants and young children are needed. Maximum levels for contaminants in food established by Health Canada's Food Directorate are based on scientific evidence and in consultation with stakeholders. If it is determined that additional MLs for other rice-based foods are warranted, Health Canada will announce its intention to establish these MLs via a Notice of Proposal published on [Health Canada's website](#).

Implementation and Enforcement

The above modification came into force on **June 5, 2020**, the day it is published in Part 2 of the [List of Contaminants and Other Adulterating Substances in Foods](#).

The Canadian Food Inspection Agency is responsible for the enforcement of the food-related aspects of the *Food and Drugs Act* and its associated regulations.

Contact Information

Health Canada's Food Directorate is committed to reviewing any new scientific information on the chemical safety of foods. Anyone wishing to submit new scientific information relating to inorganic arsenic in rice may do so in writing, by postal mail or email. If you wish to email the Food Directorate, please use the words "**Arsenic (NOM C-2020-1)**" in the subject line.

[Bureau of Chemical Safety, Food Directorate](#)

251 Sir Frederick Banting Driveway

Tunney's Pasture, PL: 2202C

Ottawa, Ontario K1A 0L2

E-mail: hc.bcs-bipc.sc@canada.ca