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Notice of Modification to the *List of Permitted Food Enzymes* to Enable the Use of Glucose Oxidase from *Aspergillus niger* J39 in Various Foods

Notice of Modification – Lists of Permitted Food Additives

Reference Number: NOM/ADM-0142

January 21, 2020



Summary

Food additives are regulated in Canada under [Marketing Authorizations](#) (MAs) issued by the Minister of Health and the *Food and Drug Regulations* (Regulations). Approved food additives and their permitted conditions of use are set out in the [Lists of Permitted Food Additives](#) that are incorporated by reference in the MAs and published on the Canada.ca website. A petitioner can request that Health Canada approve a new additive or a new condition of use for an already approved food additive by filing a food additive submission with the Department's Food Directorate. Health Canada uses this premarket approval process to determine whether the scientific data support the safety of food additives when used under specified conditions in foods sold in Canada.

Health Canada's Food Directorate received a food additive submission seeking approval for the use of glucose oxidase from *Aspergillus niger* J39 as a food enzyme in bread, flour, whole wheat flour, pasta, and unstandardized bakery products. In addition, the petitioner is seeking approval to add this food enzyme to certain shredded cheeses (cheddar, mozzarella, parmesan and provolone) just prior to their packaging. The food enzyme is to be used in all the requested foods at a level consistent with Good Manufacturing Practice. The purpose for using the glucose oxidase in the bread, flour, whole wheat flour and unstandardized bakery products is to improve the functional properties (e.g. stability, machinability) of the dough, resulting in better bread making performance. The food enzyme also reduces the stickiness of the dough in pasta applications, which will facilitate processing of the pasta. With respect to cheeses, glucose oxidase is to be added together with an anticaking agent to the packaged shredded cheese to reduce the residual oxygen in the packages which in turn decreases mold growth and increases the shelf life of the product. A secondary benefit is that the enzyme reduces undesired over-browning of shredded cheese when it is baked (e.g. as a pizza topping).

Glucose oxidase from other *A. niger* strains is already permitted for use as a food enzyme in the manufacture of all the foods of interest to the petitioner other than the shredded cheeses. However, *A. niger* J39 has not previously been permitted as a source for food enzymes in Canada.

The results of the Food Directorate's evaluation of available scientific data support the safety and efficacy of glucose oxidase from *A. niger* J39 when used as a food enzyme as requested by the petitioner. Therefore, Health Canada has modified the [List of Permitted Food Enzymes](#) to enable the requested uses of this enzyme from the new source by adding the entries shown below to the list.

Modification to the *List of Permitted Food Enzymes*

Item No.	Column 1 Additive	Column 2 Permitted Source	Column 3 Permitted in or Upon	Column 4 Maximum Level of Use and Other Conditions
G.3	Glucose oxidase	<i>Aspergillus niger</i> J39	(1) Bread; Flour; Whole Wheat Flour	(1) Good Manufacturing Practice
			(2) Pasta	(2) Good Manufacturing Practice
			(3) The surface of shredded cheddar cheese; The surface of shredded (naming the variety) cheese	(3) Good Manufacturing Practice
			(4) Unstandardized bakery products	(4) Good Manufacturing Practice

Rationale

Health Canada's Food Directorate completed a premarket safety assessment of glucose oxidase from *Aspergillus niger* J39 for use as a food enzyme. The assessment concluded that information related to chemistry, microbiology, nutrition, toxicology and allergenicity supports the safety of glucose oxidase from *A. niger* J39 for its requested uses. In addition, the petitioner provided data supporting that glucose oxidase is effective for its intended purposes of use in shredded cheese, which is a new type of food in which to permit this food enzyme.

Therefore, the Department has enabled the requested uses of glucose oxidase from *A. niger* J39 by adding the new entries shown in the above table to the [List of Permitted Food Enzymes](#).

Other Relevant Information

The *Food and Drug Regulations* require that food additives such as glucose oxidase from *A. niger* J39 that do not have food-grade specifications set out in Part B of the Regulations meet the most recent food-grade specifications set out in the *Food Chemicals Codex* or the *Combined Compendium of Food Additive Specifications*. The *Food Chemicals Codex* is a compendium of standards for purity and identity for food ingredients, including food additives, published by the United States Pharmacopeial Convention. The *Combined Compendium of Food Additive Specifications* and its associated *General Specifications and Considerations for Enzyme Preparations* are both prepared by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and published by the Food and Agriculture Organization of the United Nations.

Implementation and Enforcement

The above modification came into force **January 21, 2020**, the day it was published in the [List of Permitted Food Enzymes](#).

The Canadian Food Inspection Agency is responsible for the enforcement of the *Food and Drugs Act* and its associated regulations with respect to foods.

Contact Information

Health Canada's Food Directorate is committed to reviewing any new scientific information on the safety in use of any food additive, including glucose oxidase from *A. niger* J39. Anyone wishing to submit new scientific information on the use of this additive or to submit any inquiries may do so in writing, by regular mail or electronically. If you wish to contact the Food Directorate electronically, please use the words "**glucose oxidase (NOM-0142)**" in the subject line of your e-mail.

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