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Health Canada's Proposal to Enable the Use of Modified Vinegar as a Preservative in Certain Meat and Poultry Products and Preparations

Notice of Proposal – Lists of Permitted Food Additives

Reference Number: NOP/ADP-0036

December 22, 2020



Canada

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.

The food industry is interested in using modified vinegar, a vinegar-derived ingredient, as an alternative to potassium acetate and diacetate and sodium acetate and diacetate, which are permitted preservatives in certain meat and poultry products¹. Unlike vinegar, which is acidic, modified vinegar has a more neutral pH which allows it to be used in meat and poultry applications without affecting taste characteristics or denaturing of proteins that can negatively impact texture, colour and water holding capacity.

Modified vinegar is manufactured by adding a base to vinegar that typically has a high acetic acid content. The base reacts with the acetic acid in the vinegar, raising the pH and forming acetate or diacetate. The finished product is essentially a mixture of sodium or potassium acetate, sodium or potassium diacetate which, when used on their own, are regulated as preservatives, and a small amount of unreacted vinegar, which is primarily water and acetic acid. While vinegar is used as the starting material, the final product is no longer vinegar as described in [Division 19](#) of the Regulations.

Health Canada's Food Directorate proposes to regulate modified vinegar as a preservative permitted in certain standardized meat and poultry products and unstandardized preparations of meat and poultry. Identifying "Modified Vinegar" in Part 2 of the [List of Permitted Preservatives](#) will provide a common name for this additive that will signal to consumers that this ingredient differs from regular vinegar. It is proposed that modified vinegar be permitted at a maximum level of use of good manufacturing practice (GMP), with the condition that the total amount of potassium or sodium diacetate added to food, from modified vinegar singly or in combination with potassium diacetate or sodium diacetate, is not to exceed 0.25% of the final product weight. Thus, the active components of modified vinegar (i.e., those having a food additive function) would be permitted in the same meat and poultry products at the same maximum levels that are currently permitted for potassium or sodium acetate or diacetate.

The Food Directorate concluded that information related to the safety and efficacy of modified vinegar supports its use in the foods of interest. Therefore, Health Canada proposes to enable this use of modified vinegar by adding the entry shown in the table below to Part 2 of *List of Permitted Preservatives*.

¹ Part 2 of the [List of Permitted Preservatives](#): Potassium acetate (item no. P.01), sodium acetate (item no. S.01), potassium diacetate (item no. P.2.01) and sodium diacetate (item no. S.2.1).

Proposed Modification to Part 2 of the *List of Permitted Preservatives*

Item No.	Column 1 Additive	Column 2 Permitted in or Upon	Column 3 Maximum Level of Use and Other Conditions
M.3	Modified vinegar (a liquid or spray-dried mixture containing acetic acid and one or more of potassium acetate, potassium diacetate, sodium acetate or sodium diacetate, prepared by adding potassium carbonate or sodium carbonate, potassium bicarbonate or sodium bicarbonate, or potassium hydroxide or sodium hydroxide to vinegar)	(1) Brawn; Headcheese; Meat by-product loaf; Meat loaf; Potted meat; Potted meat by-product; Prepared meat; Prepared meat by-product; Prepared poultry meat; Prepared poultry meat by-product; Preserved meat; Preserved meat by-product; Preserved poultry meat; Preserved poultry meat by-product; Sausage	(1) Good Manufacturing Practice. If the modified vinegar contains potassium diacetate or sodium diacetate, the total amount of potassium diacetate or sodium diacetate added to the food, from modified vinegar singly or in combination with potassium diacetate (item P.2.01 of Part 2 of this List) or sodium diacetate (item S.2.1 of Part 2 of this List), not to exceed 0.25% of final product weight.
		(2) Unstandardized preparations of (a) meat and meat by-product (Division 14); and (b) poultry meat and poultry meat by-product (Division 22)	(2) Good Manufacturing Practice. If the modified vinegar contains potassium diacetate or sodium diacetate, the total amount of potassium diacetate or sodium diacetate added to the food, from modified vinegar singly or in combination with potassium diacetate (item P.2.01 of Part 2 of this List) or sodium diacetate (item S.2.1 of Part 2 of this List), not to exceed 0.25% of final product weight.

Consequential Modification

In addition, a subsequent modification to Part 2 of the *List of Permitted Preservatives* is required as a result of this submission. The conditions of use for potassium diacetate (item P.2.01) and sodium diacetate (item no. S.2.1) need to be modified to take into account the possible combination of these additives with modified vinegar so the total amount of potassium diacetate or sodium diacetate added to the food do not exceed 0.25% of final product weight.

Item No.	Column 1 Additive	Column 2 Permitted in or Upon	Column 3 Maximum Level of Use and Other Conditions
P.2.01	Potassium diacetate	(1) Brawn; Headcheese; Meat by-product loaf; Meat loaf; Potted meat; Potted meat by-product; Prepared meat; Prepared meat by-product; Prepared poultry meat; Prepared poultry meat by-product; Preserved meat; Preserved meat by-product; Preserved poultry meat; Preserved poultry meat by-product; Sausage	(1) 0.25% of final product weight. If used in combination with modified vinegar (item M.3 of Part 2 of this List) or sodium diacetate (item S.2.1 of Part 2 of this List), the total amount of potassium diacetate or sodium diacetate added to the food not to exceed 0.25% of final product weight.
		(2) Unstandardized preparations of (a) meat and meat by-product (Division 14); and (b) poultry meat and poultry meat by-product (Division 22)	(2) 0.25% of final product weight. If used in combination with modified vinegar (item M.3 of Part 2 of this List) or sodium diacetate (item S.2.1 of Part 2 of this List), the total amount of potassium diacetate or sodium diacetate added to the food not to exceed 0.25% of final product weight.
S.2.1	Sodium diacetate	(1) Brawn; Headcheese; Meat by-product loaf; Meat loaf; Potted meat; Potted meat by-product; Prepared meat; Prepared meat by-product; Prepared poultry meat; Prepared poultry meat by-product; Preserved meat; Preserved meat by-product; Preserved poultry meat; Preserved poultry meat by-product; Sausage	(1) 0.25% of final product weight. If used in combination with modified vinegar (item M.3 of Part 2 of this List) or potassium diacetate (item P.2.01 of Part 2 of this List), the total amount of potassium diacetate or sodium diacetate added to the food not to exceed 0.25% of final product weight.
		(2) Unstandardized preparations of (a) meat and meat by-product (Division 14); and	(2) 0.25% of final product weight. If used in combination with modified vinegar (item M.3 of Part 2 of this List) or potassium diacetate (item P.2.01 of Part 2

Item No.	Column 1 Additive	Column 2 Permitted in or Upon	Column 3 Maximum Level of Use and Other Conditions
		(b) poultry meat and poultry meat by-product (Division 22)	of this List), the total amount of potassium diacetate or sodium diacetate added to the food not to exceed 0.25% of final product weight.

Rationale

Health Canada’s Food Directorate completed a premarket safety and efficacy assessment of the requested uses of modified vinegar. The assessment concluded that information related to allergenicity, chemistry, microbiology, nutrition and toxicology supports the safety and efficacy of modified vinegar for its requested uses.

Modified vinegar is manufactured by adding potassium or sodium carbonate, potassium or sodium bicarbonate, or potassium or sodium hydroxide to vinegar, mainly composed of acetic acid, to buffer the pH of the vinegar. The constituents of modified vinegar (i.e., sodium acetate, potassium acetate, sodium diacetate, and/or potassium diacetate) were assessed previously for use as preservatives in the same categories of foods and at the same maximum levels of use as are proposed for these substances when added via modified vinegar. Acetic acid, when used as a food preservative, is permitted in some of these foods² at the level of GMP; it is also commonly consumed as vinegar.³ These chemicals have not been reported to be food allergens, despite many years of permitted use in the Canadian market. Since modified vinegar is used as an alternative to potassium acetate, sodium acetate, potassium diacetate and sodium diacetate, dietary exposure to these substances from the use of modified vinegar is not expected to substantially change from the current situation. No microbiological food safety concerns were identified with the proposed use of modified vinegar. However, in some meat and poultry products, modified vinegar alone might not ensure complete microbial safety. Meat and poultry processors are responsible for identifying the optimal conditions for using modified vinegar and/or any other substances, processes and procedures to achieve the necessary level of microbial control for the food to be sold.

The results of the premarket assessment support the safety and efficacy of modified vinegar for use as a preservative as set out in the table above. Health Canada is therefore proposing to enable the use of this food additive as shown in the table.

Other Relevant Information

The Food Directorate engaged in discussions with industry associations and the Canadian Food Inspection Agency (CFIA) on the use of this vinegar-derived ingredient in meat and poultry products and the best way to inform consumers that this ingredient differs from vinegar. The name “modified vinegar” appropriately

² As a Class 1 preservative in preserved meat and preserved meat by-products, preserved poultry meat and preserved poultry meat by-product, as per item A.1 of [Part 1](#) of the *List of Permitted Preservatives*.

³ Vinegar as per [Division 19](#) of the Regulations.

communicates to consumers that the vinegar has indeed been chemically modified. To provide further transparency to stakeholders and the general public on the composition of this preservative, it is proposed to define modified vinegar in Part 2 of the [List of Permitted Preservatives](#).

The *Food and Drug Regulations* require that food additives such as modified vinegar 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* (FCC) 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*, which contains specifications prepared by the Joint FAO/WHO Expert Committee on Food Additives (JECFA), is published by the Food and Agriculture Organization of the United Nations. There are no specifications for modified vinegar in either of those publications. Industry indicated that the bases used in the manufacture of modified vinegar meet FCC or JECFA specifications. Industry also stated that modified vinegar is manufactured under strict quality control standards and good manufacturing practices and is considered to be of food grade quality. Until such time that a specification is established within the FCC or by JECFA for modified vinegar, Health Canada considers the above mentioned specifications to be acceptable.

Implementation and Enforcement

The proposed change will be effective the day on which it is published in Part 2 of the [List of Permitted Preservatives](#). This will be announced via a Notice of Modification that will be published on the [Government of Canada's website](#).

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

For additional information or to submit comments related to this proposal, please contact:

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

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If communicating by e-mail, please use the words “**modified vinegar (NOP-0036)**” in the subject line of your e-mail. Health Canada is able to consider information received by **March 6, 2021**, 75 days from the date of this posting.