The Dairy Standard Agency (NPC) is an independent, expert and objective body funded by Milk SA and related non-statutory income. The vision of the Dairy Standard Agency is to promote the maintenance and improvement of the quality and safety of dairy products in the interest of the dairy industry and the consumer

3 November 2025

Dear industry member

The voluntary use of the Lactoperoxidase System (LPS) in unprocessed (raw) milk and during manufacturing of dairy products in South Africa

The lactoperoxidase system (endemic to milk) is by national regulation and international standards identifiable as a processing aid with a mainly bacteriostatic effect on dairy products and other recognised foods. The food safe benefits of LPS are already recognised as an aid in solving current challenges faced by the food industry and the World Health Organisation (WHO) by preventing undue bacterial multiplication and the ability to maintain the original microbiological quality for a longer period.

It should also be noted the Lactoperoxidase System (LPS) is a natural antimicrobial system found in the mammary, salivary, and lachrymal glands of mammals and in their respective secretions, e.g., milk and that it is already an abundant enzyme in bovine milk. Understandably the lactoperoxidase system does not replace GMP and due to the mainly bacteriostatic effect of the system, it is not possible to disguise poor microbiology quality (FAO/WHO, 2002).

The prevention of spoilage of highly perishable dairy products by spoilage microorganisms and their metabolites is a constant threat for which the use of alternatives such as chemical preservatives are not always permissible and not preferred. Notably, LPS is not designed to disguise poor microbial quality.

In general, the LPS is used to prevent undue bacterial multiplication for the following reasons:

Benefit	Industry	Consumer
Extended Shelf Life	By stabilising starting quality of the raw ingredients	Increased shelf life with better organoleptic properties (acidity, colour, texture)
	By inhibiting the growth of spoiling microorganisms	
Organoleptic	Provide consumers with a product that upholds its organoleptic properties	

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Reduce waste	By preventing undue growth of spoiling microorganisms during the processing stages	By keeping the product longer in the household.
Increased efficiency	Longer shelf life allows better warehousing and production management	
Extra hurdle in the food safety system	Less risk of recalls	Less risk of foodborne illness
Label	Clean label as it is a processing aid	Avoid consumption of chemical preservatives

Following liaison with the Department of Health: Directorate Food Control, the use of LPS in dairy obtained the necessary approval subject to certain conditions as per the attached letter and Codex standard.

Ultimately LPS, whether applied to raw milk or manufacturing of dairy products do require the necessary skills to ensure the desired effect. Good manufacturing practises under controlled conditions are required and in this regard training from the supplier is imperative.

Please note that according to the **Guidelines for the Preservation of Raw Milk by Use of the Lactoperoxidase System** (CAC/GL 13-1991), the standard specifies that the system should not be used for products intended for international trade. This rule is binding and also enforced by the Department of Health.

For further references please feel free to contact the Dairy Standard Agency at info@dairystandard.co.za

Regards
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Dairy Standard Agency
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Date: 23 September 2025

The Managing Director
Dairy Standard Agency

Attention: Mr. Jompie Burger
Jompie@dairystandard.co.za

RE: Use of Lactoperoxidase System (LPS) by the South African Dairy Industry

The letter dated 28 February 2024, and the meeting of 31 July 2025 are referred to.

The Directorate: Food Control acknowledges the potential benefits of using LPS in the production of secondary dairy products. Currently, there are no established national Regulations or guidelines regarding the use of substances as processing aids. In such cases, we follow the Codex guidelines on substances used as processing aids, viz. CAC/GL 75-2010.

This implies that any substances used as processing aids must comply with the principles outlined in these Codex guidelines. This includes the requirement that any residues of processing aids remaining in the food after processing should not perform a technological function in the final product.

In view of the above, the Directorate: Food Control permits the use of substances as processing aids provided that the LPS substances comply with the principles and the safety requirements as specified relevant Codex texts.

Campbell.

MRS PT CAMPBELL
DIRECTOR: FOOD CONTROL

GUIDELINES ON SUBSTANCES USED AS PROCESSING AIDS

CAC/GL 75-2010

1. OBJECTIVES AND SCOPE

The Guidelines aim to provide information for the safe use of substances used as processing aids and the safety of their residues in the preparation of foods and food ingredients.

2. DEFINITION

Processing aid means any substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients, to fulfil a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable presence of residues or derivatives in the final product.[1]

3. PRINCIPLES FOR THE SAFE USE OF SUBSTANCES USED AS PROCESSING AIDS

3.1 The use of a substance as a processing aid is justified when such use performs one or more technological functions during treatment or processing of raw materials, foods, or ingredients. Any residues of processing aids remaining in the food after processing should not perform a technological function in the final product.

3.2 Substances used as processing aids shall be used under conditions of good manufacturing practices (GMP) which includes the following:

- The quantity of the substance used shall be limited to the lowest achievable level necessary to accomplish its desired technological function;
- Residues or derivatives of the substance remaining in food should be reduced to the extent reasonably achievable and should not pose any health risk; and
- The substance is prepared and handled in the same way as a food ingredient.

3.3 The safety of a substance used as a processing aid should be demonstrated by the supplier or the user of the substance. The demonstration of safety should include appropriate assessment of any unintended or unavoidable residues resulting from its use as a processing aid under conditions of GMP.

3.4 Substances used as processing aids should be of food grade quality. This can be demonstrated by conforming to the applicable specifications of identity and purity recommended by the Codex Alimentarius Commission or, in the absence of such a specification, with an appropriate specification developed by responsible national or international bodies or suppliers.

3.5 Substances used as processing aids should comply with any applicable microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CAC/GL 21-1997) and should be prepared and handled in accordance with the *Recommended International Code of Practice – General Principles of Food Hygiene* (CAC/RCP 1-1969) and other relevant Codex texts".

5.0 LABELLING

5.1 Labelling of substances used as processing aids should be in accordance with the requirement of the Codex *General Standard for Labelling of Food Additives When Sold as Such* (CODEX STAN 107-1981) and the Codex *General Standard for the Labelling of Prepackaged Food* (CODEX STAN 1-1985).

[1] Codex Alimentarius Commission, Procedural Manual, "Section I : Definitions for the purpose of the Codex Alimentarius"