

Control processing to produce evaporated products

Overview

This standard covers the skills and knowledge needed for you to produce evaporated products in food and drink manufacture and/or supply operations. Knowing how to produce the correct specification of evaporated products is important to the production of a final product that adheres to regulatory food safety and organisational quality and yield specifications.

The raw material could be from a variety of sources but principally milk and its derivatives such as skim, whey, buttermilk and cream.

You will need to know how to prepare equipment to produce evaporated products and control the evaporated products making process. You must also know how to adhere to regulatory standards and standard operating procedures. You must be able to apply your skills and knowledge within food safety regulations and any relevant international industry codes especially when referring to HACCP, TACCP and VACCP.

This standard is for you if you work in food and drink manufacture and/or supply operations and are involved in producing evaporated products.

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Performance criteria

You must be able to:

1. prepare to receive product from upstream equipment for efficient evaporation of milk and its derivatives within the evaporators
2. prepare to control evaporator processing equipment and associated compliance documentation
3. use the correct personal protective equipment
4. check organisational standard operating procedures and product recipes relating to the production of evaporated products
5. check that all necessary plant, equipment, plans for production, ingredients and services are available and fit for use
6. check documentation to ensure plant is ready for use
7. start up and control dairy processing equipment within the limits of your responsibility
8. work at a pace suitable to meet the production plan
9. make adjustments to equipment to maintain organisational product specifications
10. take representative samples for testing adhering to organisational sampling plan within the limits of your responsibility
11. evaluate faults for impact on product and processing equipment operations within the limits of your responsibility
12. make dairy product available to next stage of processing or packaging
13. prepare for changeover of product recipe or packaging in line with organisational requirements
14. prepare to handover process on shift changeover in line with organisational requirements
15. deal with product waste in line with legislation and organisational requirements
16. liaise with relevant personnel to prepare plant for shutdown
17. process and route interphase product
18. establish and maintain effective spoken, written and electronic communication with relevant people
19. complete the necessary documentation and process to organisational requirements

Knowledge and understanding

You need to know and understand:

1. the food safety aspects of the production of evaporated products including HACCP, TACCP and VACCP
2. the dairy science underpinning the raw materials and the process used for production (the fat, protein, lactose, moisture and total solids content)
3. the health and safety aspects associated with the process
4. how evaporated products are classified and the dairy products commonly produced by evaporation
5. the regulations relating to the composition requirements for different types of evaporated products
6. the role and function of the equipment and processes required to carry out evaporation
7. how the chemical composition of liquids, hygroscopic nature and ability to only slowly crystallise impacts on the production of evaporated products
8. how the heat treatment processes used in the production of evaporated products affects the quality of the final product
9. how reducing the boiling point of the liquid product during evaporation can affect the quality of the final product
10. the by-product(s) of evaporation and how they can be utilised
11. what the common faults of evaporated dairy products are and how to deal with them at each stage of manufacture
12. the regulations/guidance relating to the heat treatment and storage of evaporated products for sale
13. the functions of skimmed milk powder, whey milk powder, condensed skim milk, anhydrous milk fat, vegetable fat, sucrose, dextrose and glucose syrup in the production of evaporated products
14. organisational specifications and equipment standard operating procedures relating to evaporation
15. why it is important to control storage temperature of evaporated products
16. why and how to control equipment to ensure the evaporated products meet organisational final product quality, yield and productivity specifications
17. how to adjust evaporator equipment/instrumentation in response to product quality tests
18. common sources of contamination during processing, how to avoid these and what might happen if this is not done
19. how to deal with product that can be re-cycled or re-worked
20. hygienic design of evaporators
21. the hygienic design of the plant
22. how the manufacture process and support operations use digital technologies rather

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than paper based systems to monitor and control production

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