
Overview

This standard is about the skills and knowledge needed for you to process liquid whey in food and drink manufacture and/or supply operations. Knowing how to process liquid whey is important to the production of a final product that adheres to regulatory food safety and organisational quality and yield specifications. Controlling liquid whey processing equipment is integral, including that which carries out heat treatment, filtration, standardisation, separation, and/or other dairy processes. Primarily, liquid whey is produced as a result of cheesemaking but there is a move toward direct membrane processing of liquid milk to allow direct fractionation of milk into its constituent parts.

You will need to know how to prepare equipment needed to process liquid whey and control liquid whey processing. You must also know how to address problems, work within the limits of your responsibility and 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 controlling dairy processing equipment

Performance criteria

You must be able to:

1. prepare to control liquid whey processing equipment and associated compliance documentation
2. use the correct personal protective equipment
3. check organisational standard operating procedures and product recipes relating to the production of liquid whey protein concentration
4. check that all necessary plant, equipment, plans for production, ingredients and services are available and fit for use
5. check documentation to ensure plant is ready for use
6. start up and control dairy processing equipment within the limits of your responsibility
7. work at a pace suitable to meet the production plan
8. adjust equipment to maintain organisational product specifications
9. take representative samples for testing adhering to organisational sampling plan within the limits of your responsibility
10. evaluate faults for impact on product and processing equipment operations within the limits of your responsibility
11. make dairy product available to next stage of processing or packaging
12. prepare for changeover of product recipe or packaging in line with organisational requirements
13. prepare to handover process on shift changeover in line with organisational requirements
14. deal with product waste in line with legislation and organisational requirements
15. liaise with relevant personnel to prepare plant for shutdown
16. process and route interphase product
17. establish and maintain effective spoken, written and electronic communication with relevant people
18. 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 liquid whey products including HACCP, TACCP and VACCP
2. the dairy sciences underpinning liquid whey as a raw material
3. the dairy sciences underpinning liquid milk as a raw material
4. the technology of key processes – whey clarification, whey separation and pasteurisation
5. filtration principles: microfiltration, ultrafiltration, nanofiltration, reverse osmosis
6. regulatory and organisational requirements relating to the production of liquid whey
7. the tools and equipment needed to process liquid whey
8. health and safety aspects associated with the process
9. the personal protective equipment required when processing milk and why it is important to use and wear it
10. how to maintain communication with relevant people when processing liquid whey
11. organisational specifications and equipment standard operating procedures relating to the processing of liquid whey
12. the importance of adhering to quality specifications when processing liquid whey
13. how to control temperature when storing and processing whey
14. why it is important to control temperature from milk reception to product outlet (permeate and retentate)
15. why and how to control processing equipment used to process liquid whey
16. how to adjust liquid whey processing in response to product quality tests
17. the actions required to concentrate/standardise whey to organisational requirements
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. the hygienic design of liquid fresh whey processing plant
21. whey/milk fractionation technology and uses

22. how the manufacture process and support operations use digital technologies rather than paper based systems to monitor and control production

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Control processing to produce liquid whey protein concentration



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