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## Overview

This standard covers the skills and knowledge needed for you to process ESL liquid milk in food and drink manufacture and/or supply operations. Knowing how to process ESL liquid milk is important to the production of a final product that adheres to regulatory food safety and organisational quality and yield specifications. Controlling ESL liquid milk processing equipment is integral, including that which carries out heat treatment, standardisation, separation, homogenisation and/or other dairy processes. This standard is also about the skills and principles surrounding aseptic packaging in dairy processing which naturally follows ESL processing. You need to understand the methods of aseptic packaging in varying formats, and how the processing maintains sterility.

You will need to know how to prepare equipment needed to process ESL liquid milk and control ESL liquid milk 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 to produce ESL milks.

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## Performance criteria

### *You must be able to:*

1. prepare to control ESL liquid milk processing equipment and associated compliance documentation
  2. check plant sterility at start up and maintain during the processing stage
  3. use the correct personal protective equipment
  4. check organisational standard operating procedures and product recipes relating to the production of ESL milks
  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
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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 ESL products including HACCP, TACCP and VACCP
2. the dairy sciences underpinning liquid milk as a raw material for ESL processing
3. the regulatory and organisational requirements relating to the production of ESL liquid milk
4. the tools and equipment needed to process ESL liquid milk
5. health and safety aspects associated with the process
6. the personal protective equipment required when processing ESL milk and why it is important to use and wear it
7. how to maintain communication with relevant people when processing ESL liquid milk
8. organisational specifications and equipment standard operating procedures relating to the processing of ESL liquid milk
9. the importance of adhering to quality specifications when processing ESL liquid milk
10. how to control temperature when storing and processing ESL milk
11. why it is important to control temperature from milk reception to product outlet (Aseptic finished milk silo/tank)
12. why and how to control processing equipment used to process ESL liquid milk
13. how to adjust liquid ESL milk processing in response to product quality tests
14. the actions required to standardise ESL milk to organisational requirements
15. common sources of contamination during processing, how to avoid these and what might happen if this is not done
16. how to deal with product that can be re-cycled or re-worked
17. the hygienic design of ESL milk processing plant
18. how Extended Shelf Life (ESL) milk is packaged
19. the advantages of ESL milk treatments over standard pasteurisation techniques and traditional in-bottle long process sterilization techniques
20. the use of micro-filters for the sterilization of heat sensitive food products
21. the importance of hermetically sealing extended life products

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- 22. how hermetic sealing is carried out
  - 23. the importance of packaging to consumer confidence
  - 24. the importance of consumers being able to open and access products
  - 25. additives used in ESL milk drinks (thickeners, stabilisers, emulsifiers, flavours, powders)
  - 26. how the manufacture process and support operations use digital technologies rather than paper based systems to monitor and control production

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| <b>Developed by</b>             | Improve   |
| <b>Version Number</b>           | 3   |
| <b>Date Approved</b>            | 30 Mar 2023   |
| <b>Indicative Review Date</b>   | 30 Mar 2028   |
| <b>Validity</b>                 | Current   |
| <b>Status</b>                   | Original  |
| <b>Originating Organisation</b> | Improve   |
| <b>Original URN</b>             | IMPDY103  |
| <b>Relevant Occupations</b>     | Food Preparation Trades, Manufacturing Technologies, Plant and Machine Operatives, Process Operatives |
| <b>Suite</b>                    | Dairy   |
| <b>Keywords</b>                 | ESL; milk; process; dairy; plant; equipment; clean; aseptic   |