

Overview

This standard is about the skills and knowledge needed for you to control fermentation in brewing.

This standard details the skills and understanding needed to control the fermentation of hopped wort in brewing to produce beer. This includes cropping (harvesting) and storing yeast so that it is available to pitch (add to) cooled, oxygenated hopped wort. Skills and understanding of how to select, treat and pitch (adding yeast to unfermented wort) so that fermentation commences is also required.

This standard details the skills required to initiate, run, monitor and complete the process as well being able to take appropriate action should operating problems occur. It is also about working to product specifications, production schedules and standard operating procedures in the fermentation area of the brewery.

This standard is for you if you carry out operative tasks which control and complete the fermentation process in brewing.

Performance criteria

You must be able to:

Monitor and control present gravity (PG) and temperature of fermenting wort

1. monitor fermentation in accordance with the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and the standard operating procedures
2. control the fermentation process according to standard operating procedures
3. measure, analyse and interpret fermentation process and quality data according to standard operating procedure
4. check the product specifications at the right time
5. identify non-conformance to fermentation process and product
6. manage and implement effective action in response to operating problems within the limits of your responsibility
7. maintain communication in accordance with organisational procedures

Crop and store yeast at the required time during the fermentation process

8. control cropping and storing of yeast processes according to standard operating procedures
9. set up equipment according to specification, including ensuring that the yeast collection vessel to be used is empty and clean
10. use equipment in accordance with organisational policies and procedures and make sure that it is supplied with materials and services
11. start up equipment according to procedures
12. transfer yeast to the yeast collection vessel
13. measure, analyse and interpret quality data according to standard operating procedures

Control yeast selection, treatment and pitching

14. control yeast treatment and yeast pitching processes according to standard operating procedures
15. identify any non-conformance to the characteristics of healthy yeast
16. assess yeast condition and purity

17. calculate the correct amount of yeast to add to fermentation
18. calculate the correct quantity of suitable acid to treat a given amount of yeast

Take action once fermentation is complete

19. finish fermentation in accordance with the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and the standard operating procedures
20. achieve the required output to the correct specification
21. take action in response to operating problems within the limits of your responsibility
22. maintain communication in accordance with organisational procedures

Knowledge and understanding

You need to know and understand:

1. the organisational health and safety, hygiene, environmental and quality standards and instructions
2. the personal protective equipment required
3. the work area tools and equipment needed
4. why it is important to check the cleanliness of work area, tools and equipment
5. the purpose and importance of the process
6. what materials to use and in what quantity
7. how to obtain and interpret the relevant process or ingredient specification
8. what action to take when the process specification is not met
9. how to carry out the necessary pre start checks and why it is important to do so
10. how to follow the start up procedures for the process and why it is important to do so
11. how to follow the relevant process control procedures and why it is important to do so
12. different ways to carry out the process
13. how to carry out the process in accordance with organisational procedures and why it is important to do so
14. sanitary requirements during the fermentation process
15. the different methods of yeast pitching and harvesting
16. common sources of contamination during processing, how to avoid these and what might happen if this is not done
17. how to operate, regulate and shut down the relevant equipment
18. what the limits of your own authority and competence are and why it is important to work within them
19. how to deal with items that can be re-cycled or re-worked
20. how to dispose of waste and why it is important to do so
21. how to make equipment ready for future use

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