

## Overview

This standard is about the principles of filtration in food technology. It is about understanding the technology of filtration in food processing. Filtration may typically be carried out for; clarification of milk and wine, juice extraction from fruits and vegetables. This standard is for you if you need a broad understanding of the science and food technology of filtering. You need to understand the function of filtration and clarification. You need to know how filtering methods are carried out and the technology of assisted filtration with pressure or a vacuum.

## Performance criteria

You must be able to:

- This is a knowledge unit which underpins the skills set out in
- PO.209S Control separation in food manufacture
- WM.101S Ferment grape juice or concentrate
- WM.103S Style base wine in British wine making
- WM.104S Blend styled wine to produce British wine
- WM.111S Blend and stabilise grape juice to produce UK wine

## Knowledge and understanding

You need to know and understand:

- 1 the purpose of filtration of foods in food processing
- 2 what types of foods are normally separated by filtration processes
- 3 what the process of clarification is in filtering
- 4 the meaning of the terms filtrate, filter medium and filter cake
- 5 what filter media are commonly used in food filtration processing
- 6 how filter media are selected for specific food types
- 7 how filter media are cleaned or disposed of
- 8 what the function of filter aids are
- 9 what materials are commonly used as filter aids
- 10 the typical structure and operation of a plate and frame press, earth filter and cartridge
- 11 how the use of a vacuum can be used as an alternative to pressure, to assist in speeding up the filtration process
- 12 the typical structure and operation of a continuous rotary drum vacuum filter and its characteristics
- 13 objective of filtration process and selection of filter pore size
- 14 the difference between dead-end and cross flow filtration
- 15 the advantages and disadvantages of dead end filtration
- 16 the advantages and disadvantages of cross flow filtration
- 17 how filtration can be used to produce a sterile filtrate

## Glossary

### Clarification

Filtration carried out to remove small quantities of solid from a liquid e.g. finely suspended material in wine

### Vacuum

The creation of a negative pressure, by the reduction in air pressure to that below atmospheric pressure, or the total extraction of air

## Principles of filtration in food technology

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