

How milk is processed

It all starts with fresh milk from cows.

1. Initial storage

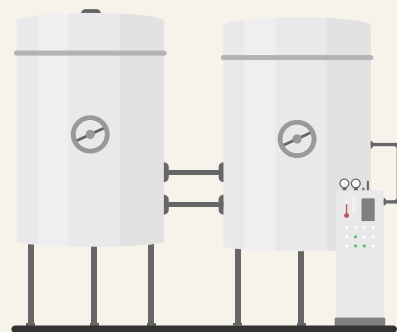
The milk is initially stored in large, refrigerated vats at 5°C or less.

Within 48 hours, milk is taken in tankers to a milk factory where it is pasteurised and homogenised.



2. Pasteurisation

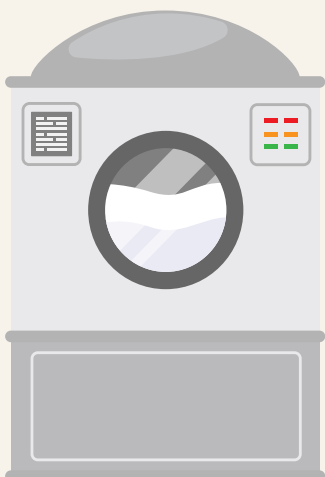
This technique heats milk to 72°C for no less than 15 seconds, then cooled immediately to destroy any harmful bacteria and micro-organisms. This also extends the shelf life.



3. Homogenisation

Milk is put under pressure through fine nozzles, which evenly disperses fat globules.

This stops the cream separating and rising to the top, allowing a more consistent texture and taste.

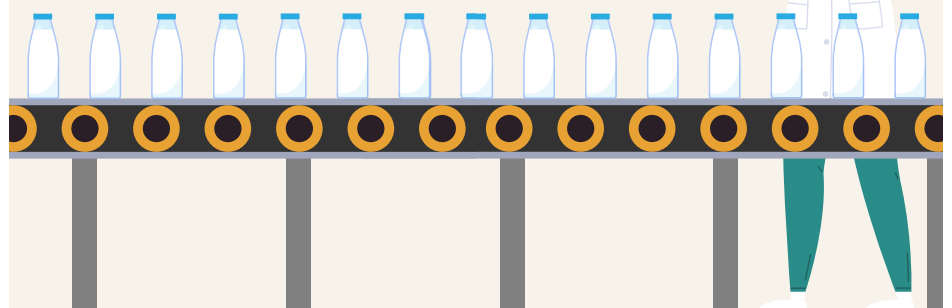


4. Standardisation

Milk composition is **standardised** so components like fat content are made consistent, no matter the season or breed of cow the milk comes from.

The composition of milk is governed by the Food Standards Australian New Zealand (FSANZ) Food Standards Code. These standards are consistent with international standards – milk consumed in nearly all developed countries will have very similar standards.

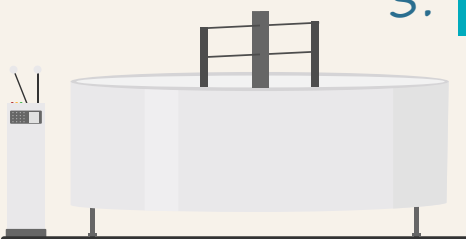
The Code allows manufacturers to add or withdraw milk components to standardise the composition of milk sourced from dairy farms, as required, to produce nutritionally consistent and safe products.



5. Centrifugal separation

This process removes some or all of the cream to make reduced-fat, low-fat or skim milk.

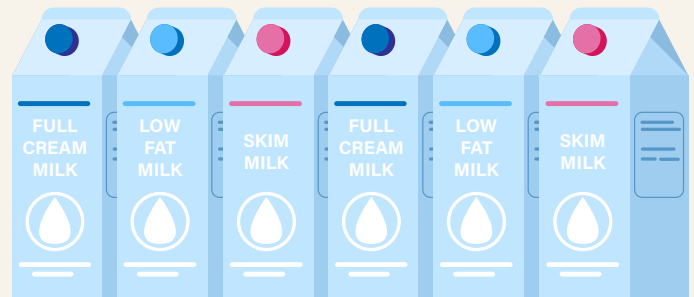
Skim milk solids can be added back to improve the test and texture and increase nutrients such as protein and calcium.



6. Ultrafiltration

This moves milk across a membrane under moderate pressure, which holds back protein, fat globules, and a large amount of calcium complexes.

Water and lactose (the sugar in milk) pass through, leaving behind a protein-rich and calcium-rich product. The fat content can be adjusted to suit consumer preference.

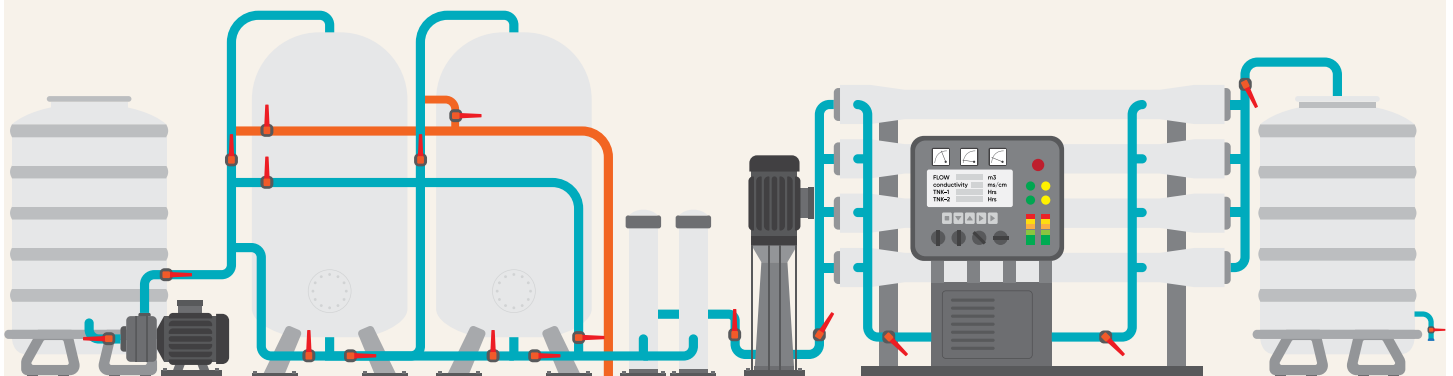


7. Reverse osmosis

This is very similar to ultrafiltration, but the membrane holds back most of the milk solids and only lets water pass through. Lactose remains in the product. There is no impact on flavour.

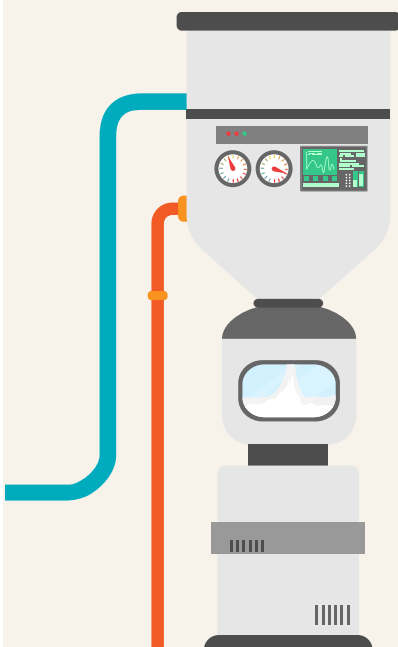
8. Ultra osmosis

This is a combination of ultrafiltration and reverse osmosis, but it holds back milk solids and allows both water and salt to pass through.



9. Spray drying

This removes water from milk in order to make powdered milk products.



Milk's nutritional value remains the same.

Milk is passed through a very fine filter, and the lactose (the sugar in milk), vitamins and minerals that filter through are referred to as "permeate".

In milk processing, the word "permeate" does not refer to anything added which was not already part of milk. That filter helps milk producers make milk with consistent properties, which helps it conform to the FSANZ Food Standards Code.

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