



Preservatives in Food



食物安全中心
Centre for Food Safety



Food is a perishable commodity. Bacteria, yeasts and moulds can grow in improperly stored food and spoil it. Occasionally, harmful microorganisms and/or their toxic secretions may also be present in food, causing harm to the consumers. Therefore, it is necessary to apply appropriate methods for preserving food.

Preserving techniques to keep food fresh or palatable have a very long history of use. Since ancient times, it has been necessary to keep supplies of harvested food edible over unfavourable periods of time such as winter, rainy periods and drought, and a number of preservative methods had been invented to cope with the need. Common food preserving techniques are:

Method	Principle	Examples of use
Heating	High temperature kills microorganisms	Pasteurised or UHT milk, canned food
Drying	Water is essential for the growth of microorganisms	Dried fruit and vegetables
Fermentation	Lactic acid bacteria inhibit the growth of harmful bacteria	Kimchi, yoghurt
Salting	High salt content lowers water activity, which prevents the growth of bacteria	Ham, salted fish
Preservatives	Some chemicals can inhibit the growth of microorganisms	Bread, beer, ketchup

What are preservatives?

Preservatives serve as antimicrobials, which prevent or slow down the growth of moulds, yeasts or bacteria. Some common preservatives are listed below:

Preservative	Target organism(s)	Examples of use
Sulphite	Yeasts and bacteria	Dehydrated fruit and vegetables, sausages
Nitrite	Bacteria	Bacon
Propionic acid	Moulds	Bread
Sorbic acid	Moulds	Cheese, wine
Benzoic acid	Yeasts and moulds	Soft drinks, ketchup

Some of these chemicals occur naturally: e.g. propionic acid in some cheeses, benzoic acid in plums, cranberries and cloves.

Preservatives can improve food safety and avoid wastage of seasonal surplus by extending the storage period.

Are preservatives safe?

All preservatives must go through rigorous safety assessment and approval procedures¹. They are permitted for food use only when they are proved to present no hazard to human health at the level of use proposed.

How is the use of preservatives regulated in Hong Kong?

In Hong Kong, the use of preservatives is regulated under the Preservatives in Food Regulations (Chapter 132BD, Laws of Hong Kong), which stipulate the preservatives permitted for food use and their maximum levels allowed in specified foods.

Advice for the public

A balanced diet is essential to avoiding excessive exposure to any particular preservative from a small range of food items.

People with allergic conditions, such as asthma patients, may experience hypersensitive reaction to certain preservatives such as sulphur dioxide. They should be careful when selecting food and seek medical advice when necessary.

Starting from July 2007, the names (or identification numbers²) and functions of the additives (including preservatives) used in a prepackaged food must be listed on the food label. People with allergic conditions can check whether the food is safe to consume.



¹ In the international food safety arena, the Joint Food Agriculture Organization / World Health Organization Expert Committee on Food Additives (JECFA) is responsible for collecting and evaluating scientific data on food additives including preservatives to provide reference points for the safe use of food additives.

² The identification numbers under the International Numbering System (INS) for Food Additives are adopted by the Codex Alimentarius Commission to identify food additives.

Two labelling formats of food additives under the new statutory requirements:



Format A:
**Functions and names of
the food additives used
must be listed on a food
label.**

Ingredients:
Ham, water, salt, sugar, dextrose,
humectant (sodium lactate, sodium phosphates),
antioxidant (sodium acetate, sodium isoascorbate),
preservative (sodium nitrite)

OR



Format B:
**Functions and
identification numbers of
the food additives used
must be listed on a food
label.**

Ingredients:
Cheddar cheese (milk, salt, starter cultures,
enzymes), cottage cheese (skim milk, starter cultures,
enzymes), milk solids non fat, emulsifier (339),
acidity regulator (270, 331, 341), preservative (200),
colour (160b), rennet from cow, vitamin D3, water

The public can refer to the Centre for Food Safety website (www.cfs.gov.hk) for the identification numbers of food additives.