



ISO and food

Great things happen **when the world agrees.**

We are ISO,
the International Organization
for Standardization



We are an independent,
non-governmental organization.



We are a global network of
national standards bodies with
one member per country.



Our job is to make International
Standards.



We are coordinated by a Central
Secretariat in Geneva, Switzerland.



We are not for profit : selling our
standards allows us to finance
their development in a neutral
environment, to maintain them
and to make new ones.



ISO provides a platform for
developing practical tools through
common understanding and
cooperation with all stakeholders.

162* members

21500*
International Standards

100
new standards each month

297*
technical committees

ἴσος

Notice that our acronym
doesn't match our name ?

It's not meant to.

“ISO” is derived from
the Greek word *isos* (equal),
so that it's the same in
all languages.

* April 2017

Why do we need ISO standards for food ?

The world population is growing rapidly and many food products repeatedly cross national boundaries to meet our rising demand for food. International Standards help to address this challenge in a safe and sustainable way, through guidance and best practice in food production methods and testing, to promote safety, quality and efficiency across the entire food industry.



Who develops ISO standards ?

ISO standards are developed by groups of experts within technical committees (TCs). TCs are made up of representatives from industry, non-governmental organizations, governments and other stakeholders who are put forward by ISO's members. Each TC deals with a different subject, such as food safety or specific food products like tea or meat, often in close collaboration with other relevant international or intergovernmental organizations. For example, the food-related committees work closely with the Codex Alimentarius and the World Organisation for Animal Health (OIE).

Visit our Website ISO.org to find out more about the standards developed in a particular sector by searching for the work of the relevant technical committee.

Who benefits from ISO standards for food ?

□ Industry

All players in the food supply chain, be they farmers, manufacturers or retailers, can benefit from the guidelines and best practice contained in ISO standards, which range from food harvesting to product packaging. In addition, internationally agreed standards help food producers meet legal and regulatory requirements.



□ Consumers

ISO standards address issues relevant to consumers such as food safety, nutritional labelling, hygiene, food additives and more. They give consumers the peace of mind that comes with knowing the food they consume meets high standards for safety and quality and contains what it says on the tin.

□ Regulators

Regulators can rely on best-practice test methods and harmonized terminology that are constantly reviewed and improved, as a technical basis for regulation and policy.



What standards does ISO have for food ?

Of the more than 21 500 International Standards and related documents, ISO has more than 1 600 related to the food sector, with many more in development. These cover :



Food products



Food safety management



Microbiology



Fisheries and aquaculture



Essential oils



Starch and its by-products

Below is a selection of ISO technical committees and ISO standards dedicated to food products, food safety, microbiology and related sectors.

Food products

- **ISO/TC 34, Food products**

Many of ISO's standards related to food are developed by this ISO technical committee. Created in 1947, it is one of ISO's oldest and most prolific committees, with over 830 published standards and 125 more in development. With its numerous subcommittees and working groups, its scope covers everything from food products, such as coffee, meat, milk, spices and cocoa, to vitamins, animal welfare, microbiology and more.

- **ISO/TC 34/SC 5, Milk and milk products**

With a portfolio of over 180 standards, this subcommittee plays an important role in the safety, quality and reliability of milk products throughout the dairy chain, from primary production to final consumption. These standards include methods and guidelines for testing and analysing the quantities of components like protein and micronutrients in milk.

Melamine and milk

Following the 2008 scandal where infant formula in China was contaminated with melamine, resulting in several deaths and thousands of babies hospitalized, ISO and the International Dairy Federation put together the technical specification ISO/TS 15495, *Milk, milk products and infant formulae – Guidelines for the quantitative determination of melamine and cyanuric acid by LC-MS/MS*, an internationally recognized means for regulatory authorities, manufacturers and producers to determine the presence of melamine in milk.



- **ISO 20633**, *Infant formula and adult nutritionals – Determination of vitamin E and vitamin A by normal phase high performance liquid chromatography*

This standard specifies important test methods for the quantitative determination of vitamins and other micronutrients in infant formula, to help ensure that its nutritional content conforms to its declaration.

- **ISO/TC 34/SC 4**, *Cereals and pulses*

Forming another key area of standardization, this ISO technical committee has over 60 standards for cereals and pulses covering terminology, sampling, methods of test and analysis, product specifications, and requirements for packaging, storage and transportation. Examples include the four-part series ISO 21415 for the determination of gluten content in wheat and the ISO 6322 series, in three parts, for the safe and hygienic storage of cereals and pulses.

Food safety management

- **ISO 22000**, *Food safety management systems – Requirements for any organization in the food chain*, developed by **ISO/TC 34/SC 17**, *Management systems for food safety*

ISO has a number of International Standards aimed at ensuring food safety throughout the supply chain. The ISO 22000 family addresses food safety management by providing guidelines and best practice for managing risks in all areas of food production.

ISO 22000 is a certifiable standard that sets out the overall requirements for a food safety management system. It defines the steps an organization must take to demonstrate its ability to control food safety hazards and ensure that food is safe for human consumption. ISO 22000 is one of ISO's best-known standards, with 32 061 certificates issued in 2015 alone.

Within its broad scope, the ISO 22000 family includes standards specific to catering, food manufacturing, farming, packaging, and animal foodstuffs and feed production.



Did you know ?

- **ISO 7304** provides guidelines for cooking pasta to perfection.
- **ISO 3103** defines what makes a good cup of tea.
- **ISO 3959** outlines the best conditions for ripening green bananas.

Microbiology

- ISO standards for microbiology are developed by **ISO/TC 34/SC 9, Microbiology.**

Much of what we eat, including meat, fish and dairy products, contains microbial flora and it is the level of such flora that determines whether it is fit for consumption and how long it will last. ISO has a number of standards for microbiology testing that help to determine safe levels of microorganisms.

- **ISO 16140, Microbiology of the food chain – Method validation**

This standard was developed to provide a common reference protocol for the validation of alternative methods against a reference method. The two-part series describes the terminology used in microbial testing (Part 1) and gives guidelines for the validation of microbiological test methods (Part 2). These standards are designed to help food and feed testing laboratories, test kit manufacturers, competent authorities, and food and feed business operators implement microbiological test methods.

ISO also has numerous standards for the detection of harmful viruses and bacteria in products for human consumption and animal feed.

- **ISO 6579-1, Microbiology of the food chain – Horizontal method for the detection, enumeration and serotyping of Salmonella – Part 1: Detection of Salmonella spp.**
- **ISO 10272-1, Microbiology of the food and animal feeding stuffs – Horizontal method for detection and enumeration of Campylobacter spp. – Part 1: Detection method¹⁾**
- **ISO 11290-1, Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of Listeria monocytogenes – Part 1: Detection method¹⁾**
- **ISO 15216-1, Microbiology of the food chain – Horizontal method for determination of hepatitis A virus and norovirus using real-time RT-PCR – Part 1: Method for quantification**
- **ISO 16654, Microbiology of food and animal feeding stuffs – Horizontal method for the detection of Escherichia coli O157**
- **ISO 19020, Microbiology of the food chain – Horizontal method**

for the immunoenzymatic detection of staphylococcal enterotoxins in foodstuffs²⁾

- **ISO 22964**, *Microbiology of the food chain – Horizontal method for the detection of Cronobacter spp.*

Finally, upcoming work in this area comprises standards on whole-genome sequencing for food microbial typing and genomic characterization of foodborne microorganisms.

- 1) Under revision
- 2) Under development





Taste wine like the experts

Wine tasting is an art and, as any wine expert well knows, not any old glass will do. ISO 3591, *Sensory analysis – Apparatus – Wine-tasting glass*, defines the best type of glass, as well as its shape and dimensions, to ensure an optimum environment in which the wine can express itself.

Fisheries and aquaculture

- **ISO/TC 234**, *Fisheries and aquaculture*

This ISO technical committee aims to promote sustainable development in the sector and has a number of standards related to traceability and the environmental monitoring of impacts from fish farming. These include the two following standards :

- **ISO 12875**, *Traceability of finfish products – Specification on the information to be recorded in captured finfish distribution chains*
- **ISO 12878**, *Environmental monitoring of the impacts from marine finfish farms on soft bottom*

Essential oils

- **ISO/TC 54**, *Essential oils*

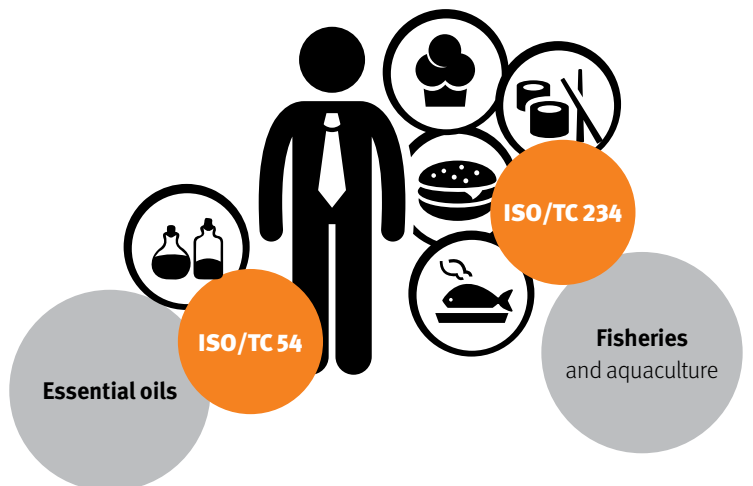
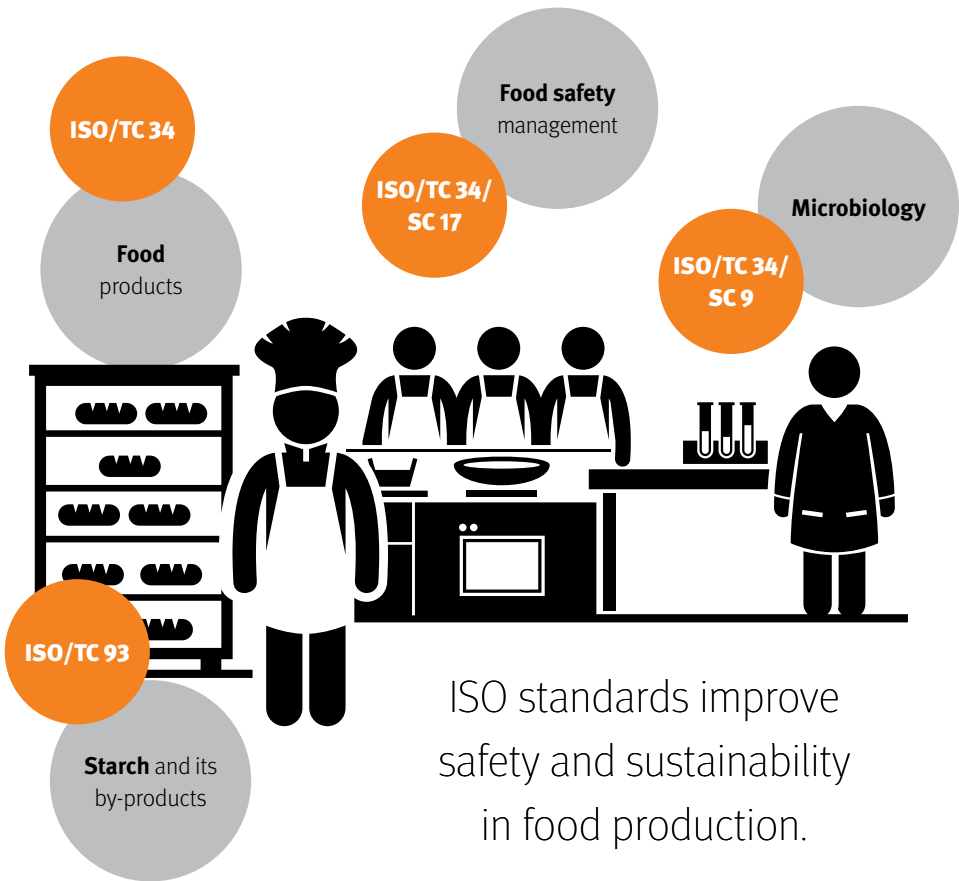
More than 130 standards for essential oils are used in food products, perfumes, cosmetics, phytotherapy and aromatherapy.

Starch and its by-products

Starch is of great importance in the manufacturing of foodstuffs and is used in a wide range of food products, including processed foods, bakery goods, desserts and beverages.

- **ISO/TC 93**, *Starch (including derivatives and by-products)*

26 standards are dedicated to starch and its by-products, which cover terminology, methods of analysis, methods of sampling and examination.





Feeding our future by going green

With a growing world population, improving sustainability in the food and agricultural sector is perhaps our only means of survival. Sustainable food systems aren't just about having enough to eat, they are about ensuring that the livelihoods of everyone involved in the industry, from farm to fork, have a sustainable future. Being "socially responsible" is key to feeding the planet.

ISO is working on a number of standards aimed at promoting sustainability and social responsibility in the food sector. For example, the upcoming ISO 34101 series on sustainable and traceable cocoa beans will

set down the requirements for a management system for the farming of cocoa beans, with the intention of implementing good agricultural practices, protecting the environment and improving the social conditions and livelihoods of farmers.

ISO/TC 34 is also working on a food-sector application of one of the world's most referenced standards for social responsibility – ISO 26000. The much awaited ISO/TS 26030, *Sustainable development and social responsibility – Guidance for using ISO 26000:2010 in the agri-food sector*, is due for publication at the end of 2018.



More information?



ISO Website
www.iso.org



ISO Website section: “Standards in action”
www.iso.org/standards-in-action



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It is used to indicate places where vegetarian food is available and appears in guide books, on information panels and on door signs.

Available on our Online Browsing Platform at gtoi.iso/isosymbols.

