

TEA & HERBAL INFUSIONS EUROPE

Formerly: European Tea Committee (ETC) and European Herbal Infusions Association (EHIA)



Version 1 | 30th November, 2021

**THIE's Recommended Microbiological Specification
for Tea (*Camellia sinensis* – Dry)
Issue 1, November 2021**

**THIE's Recommended Microbiological Specification
for Tea (*Camellia sinensis* – Dry)
explicitly labelled as Cold Brew Product (CBP)
Issue 1, November 2021**



THIE's Recommended Microbiological Specification for Tea (*Camellia sinensis* – Dry)

OBJECTIVE

This Specification is a recommendation for tea (*Camellia sinensis*). It refers to tea as defined in the [THIE Compendium of Guidelines for Tea](#) and described in Part I thereof, under 1.3 *Processing*. In addition this tea might have undergone further treatment (e.g. decaffeination), blending and packaging.

Some special teas are excluded from this Specification due its different manufacturing processes / special treatments. Examples are mentioned at THIE Compendium (Part I, Category 1.3 Processing, no. 4)

BACKGROUND

No internationally agreed official microbiological parameters were available for tea (*Camellia sinensis*), due to the long history of safe use, low moisture content and the high content of antimicrobial substances. To facilitate trade in tea and to promote a high quality policy, THIE as a recognised industry association has now implemented the following Specification based on experience of the microbiological profile of tea and continuous THIE data collection on tea.

MICROBIOLOGICAL LIMITS

<i>Aerobic Plate Count</i>	$\leq 10^7/g$
<i>Yeasts</i>	$\leq 10^4/g$
<i>Moulds</i>	$\leq 10^5/g$
<i>E. coli</i>	$\leq 10^2/g$
<i>Salmonella</i>	absent in 125 g

SAMPLING

- 5 random samples of 50 g are to be collected from the shipment.
- The 5 samples will be mixed to a composite sample.
- The composite sample is the basis for all laboratory investigations, including salmonella.

METHODS *

Aerobic Plate Count

Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 1: Colony count at 30 degrees C by the pour plate technique (ISO 4833-1:2013); Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 2: Colony count at 30 degrees C by the surface plating technique (ISO 4833-2:2013 and ISO 4833-2:2013/Cor 1:2014); European Reference Method according to Regulation (EC) No 1441/2007

*Other methods can be used if they are checked against a reference method (official method and suitability tested (recovery of reference microorganisms)).



Yeasts and Moulds

Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of yeasts and moulds – Part 2: Colony count technique in products with water activity less than or equal to 0.95 (ISO 21527-2:2008)

E. coli

Microbiology of the food chain – Horizontal method for the enumeration of beta-glucuronidase-positive *Escherichia coli* – Part 1: Colony-count technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide (ISO 16649-1:2018) or Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of beta-glucuronidase-positive *Escherichia coli* – Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide (ISO 16649-2:2001); European Reference Method according to Regulation (EC) No 1441/2007

Salmonella

Microbiology of the food chain – Horizontal method for the detection, enumeration and serotyping of *Salmonella* – Part 1: Detection of *Salmonella* spp. (ISO 6579-1:2017); European Reference Method according to Regulation (EC) No 1441/2007

ADDITIONAL REMARK

All THIE Recommended Microbiological Specifications are reviewed annually.



THIE's Recommended Microbiological Specification for Tea (*Camellia sinensis* – Dry) explicitly labelled as Cold Brew Product (CBP)

MICROBIOLOGICAL LIMITS

<i>Aerobic Plate Count</i>	$\leq 10^4 / \text{g}$
<i>Yeasts</i>	$\leq 10^2 / \text{g}$
<i>Moulds</i>	$\leq 10^2 / \text{g}$
<i>E. coli</i>	$\leq 10^1 / \text{g}$
<i>Salmonella</i>	absent in 125 g

SAMPLING

- 5 random samples of 50 g are to be collected from the shipment.
- The 5 samples will be mixed to a composite sample.
- The composite sample is the basis for all laboratory investigations, including salmonella.

METHODS *

Aerobic Plate Count

Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 1: Colony count at 30 degrees C by the pour plate technique (ISO 4833-1:2013); Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 2: Colony count at 30 degrees C by the surface plating technique (ISO 4833-2:2013 and ISO 4833-2:2013/Cor 1:2014); European Reference Method according to Regulation (EC) No 1441/2007

Yeasts and Moulds

Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of yeasts and moulds – Part 2: Colony count technique in products with water activity less than or equal to 0.95 (ISO 21527-2:2008)

E. coli

Microbiology of the food chain – Horizontal method for the enumeration of beta-glucuronidase-positive *Escherichia coli* – Part 1: Colony-count technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide (ISO 16649-1:2018) or Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of beta-glucuronidase-positive *Escherichia coli* – Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide (ISO 16649-2:2001); European Reference Method according to Regulation (EC) No 1441/2007

* Other methods can be used if they are checked against a reference method (official method and suitability tested [recovery of reference microorganisms])



Salmonella

Microbiology of the food chain – Horizontal method for the detection, enumeration and serotyping of *Salmonella* – Part 1: Detection of *Salmonella* spp. (ISO 6579-1:2017); European Reference Method according to Regulation (EC) No 1441/2007

ADDITIONAL REMARK

In order to ensure the microbiological safety of the products, appropriate measures and suitable treatments of the raw materials must be applied.

All THIE Recommended Microbiological Specifications are reviewed annually.