TEA & HERBAL INFUSIONS EUROPE

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

Version 2 | 10th June, 2024

THIE's Recommended Microbiological Specification for Tea (*Camellia sinensis – Dry*) Issue 2, June 2024

THIE's Recommended Microbiological Specification for Tea (*Camellia sinensis – Dry*) explicitly labelled as Cold Brew Product (CBP) Issue 2, June 2024

Sonninstrasse 28 · 20097 Hamburg · Germany · Tel.: +49 40 236016-21 · Fax: +49 40 236016-10 · E-Mail: thie@wga-hh.de · http://www.thie-online.eu
Commerzbank AG · IBAN: DE67 2004 0000 0102 5881 00 · BIC: COBADEFFXXX

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

Aerobic Plate Count	≤ 10^7/g
Yeasts	≤ 10^4/g
Moulds	≤ 10^5/g
E. coli	≤ 10^2/g
Salmonella	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

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

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)

The Scope of ISO 21527 is for dried products with aw-values between < 0.95 and 0.6. For dried products with aw-values of < 0.6 evidence has to be provided that the method is fit for purpose.

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

Aerobic Plate Count	≤ 5 * 10^4 / g
Yeasts	≤ 5 * 10^2 / g
Moulds	≤ 5 * 10^2 / g
E. coli	absent in 1 g
Salmonella	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)
The Scope of ISO 21527 is for dried products with aw-values between < 0.95 and 0.6. For dried products with aw-values of < 0.6 evidence has to be provided that the method is fit for purpose.

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

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

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

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.