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凉茶饮料

Liang Cha

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前 言

本标准的主要起草单位：通标标准技术服务有限公司广州分公司

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凉茶饮料

1 范围

本标准适用于 3.1 定义的预包装凉茶饮料。

2 规范性引用文件

下列文件对本标准的应用是必不可少的。凡是注日期的引用文件，仅注日期的版本适用于本标准。凡是不注日期的引用文件，其最新版本（包括所有的修改单）适用于本标准。

GB 4789.26 食品安全国家标准 食品微生物学检验 商业无菌检验

GB 5009.268 食品安全国家标准 食品中多元素的测定

GB 5009.22 食品安全国家标准 食品中黄曲霉毒素 B 族和 G 族的测定

GB 5009.96 食品安全国家标准 食品中赭曲霉毒素 A 的测定

GB 7718 食品安全国家标准 预包装食品标签通则

GB 28050 食品安全国家标准 预包装食品营养标签通则

GB/T 22388 原料乳与乳制品中三聚氰胺检测方法

CAC/GL66 GUIDELINES FOR THE USE OF FLAVOURINGS

CODEX STAN 192 (Revision 2014) GENERAL STANDARD FOR FOOD ADDITIVES

CODEX STAN 193 (Revision 2014) CODEX GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOOD AND FEED

AOAC 932.14 Solids in syrups by means of refractometer

AOAC 990.28 Sulfites in foods optimized Monier-Williams method

ISO 4833-1 Microbiology of the food chain-Horizontal method for the enumeration of microorganisms-part 1: Colony count at 30°C by the pour plate technique

ISO 4832 Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coliforms - Colony-count technique

ISO 6579-1 Microbiology of the food chain —Horizontal method for the detection, enumeration and serotyping of Salmonella —Part 1: Detection of Salmonella spp.

FDA/BAM chapter 4 online Enumeration of Escherichia coli and the Coliform Bacteria

AOAC 975.55 Staphylococcus aureus in foods-surface plating method for isolation and enumeration

FDA/BAM chapter 18 online Yeasts, Molds and Mycotoxins

3 术语和定义

下列术语和定义适用于本文件。

3.1

凉茶饮料

基于传统中医药养生理论，以仙草、鸡蛋花、布渣叶、菊花等的一种或多种为原料，添加或不添加其他植物原料或提取物、其他辅料或食品添加剂，经提取、浓缩、配制、灭菌、灌装（或灌装、灭菌）、包装等主要工艺加工制成的预包装饮料。

4 技术要求

4.1 原辅材料要求

应符合相关国家或地区对使用原辅材料标准及法规要求。

4.2 感官要求

应具有标签标示的植物原料制成饮料所特有的色泽、气味、滋味等

4.3 理化要求

应符合表 1 的规定

表 1 理化要求

项目	指标要求
可溶性固形物	$\geq 0.5\text{g/L}$
二氧化硫残留量	$\leq 10\text{mg/L}$

4.4 食品添加剂

应符合相关国家或地区对饮料类型产品的食品添加剂使用要求。

4.5 污染物要求

应符合表 2 的规定。

表 2 污染物要求

类别	项目	指标
重金属	砷	$\leq 0.1\text{mg/L}$
	铅	$\leq 0.2\text{mg/L}$
	汞	$\leq 0.05\text{mg/L}$
	铜	$\leq 2.0\text{mg/L}$
	锡 仅适用于金属罐装产品	$\leq 150\text{mg/L}$
真菌毒素	赭曲霉毒素 A	$\leq 5\ \mu\text{g/L}$
	总黄曲霉毒素（ B1、B2、G1、G2 之和）	$\leq 5\ \mu\text{g/L}$

4.6 微生物指标

4.6.1 以罐头加工工艺生产的产品应符合商业无菌的要求。

4.6.2 其他包装的产品微生物指标应符合表 3 的规定。

表 3 微生物要求

	采样方案及限量要求			
	n	c	m	M
菌落总数 (CFU/mL)	5	0	200	/
大肠菌群 (CFU/mL)	5	0	0	/
霉菌 (CFU/mL)	≤ 20			
酵母菌 (CFU/mL)	≤ 20			
沙门氏菌 (/25mL)	5	0	0	/
金黄色葡萄球菌 (CFU/mL)	5	1	100	1000
大肠杆菌 (CFU/mL)	5	0	0	/

n: 同一批次产品应采集的样品件数;

c: 最大可允许超出m 值的样品数;

m: 微生物指标可接受水平限量值(三级采样方案)或最高安全限量值(二级采样方案);

M: 微生物指标的最高安全限量值;

金黄色葡萄球菌采用三级采样方案, 其它微生物采用二级采样方案。

4.7 农药残留要求

应符合相关国家或地区对饮料类型产品中农药最大残留限量的规定

5 试验方法

5.1 感官检验

应满足产品规格的要求。

5.2 理化检验

5.2.1 可溶性固形物

按 AOAC 932.14 或其它折光仪方法进行测试。

5.2.2 二氧化硫

按 AOAC 990.28 或其它蒸馏滴定方法进行测试。

5.3 污染物检验

5.3.1 砷、铅、汞、铜、锡

按 GB 5009.268 规定的方法测定，或其它国际通用 ICP/MS 或 AAS 方法进行测试，方法检出限满足符合性限值要求。

5.3.2 总黄曲霉毒素（B1、B2、G1、G2 之和）

按 GB 5009.22 或其它免疫亲和层析净化液相色谱法进行测试。

5.3.3 赭曲霉毒素 A

按 GB 5009.96 或其它免疫亲和层析净化液相色谱法进行测试。

5.4 微生物检验

5.4.1 菌落总数

按 ISO 4833-1 或其它 AOAC、ISO 等国际通用方法进行测试。

5.4.2 大肠菌群

按 ISO 4832 或其它 AOAC、ISO 等国际通用方法进行测试。

5.4.3 霉菌、酵母菌

按 FDA/BAM chapter 18 或其它 AOAC、ISO 等国际通用方法进行测试。

5.4.4 沙门氏菌

按 ISO 6579-1 或其它 AOAC、ISO 等国际通用方法进行测试。

5.4.5 金黄色葡萄球菌

按 AOAC 975.55 或其它 AOAC、ISO 等国际通用方法进行测试。

5.4.6 大肠杆菌

按 FDA/BAM chapter 4 或其它 AOAC、ISO 等国际通用方法进行测试。

5.4.7 商业无菌

按 GB 4789.26 或其它 AOAC、ISO 等国际通用方法进行测试。

6 标志

6.1 标签

应符合相关国家或地区预包装食品标签的规定。

营养成分及检测包括但不限于以下项目：能量、蛋白质、脂肪、（总）碳水化合物、钠、糖（单糖、双糖）或总糖、水分、灰分、反式脂肪、饱和脂肪、膳食纤维、维生素 D、胆固醇、钙、铁、钾、添加糖、糖醇等。

6.2 包装

应符合相关国家或地区的规定。

附录 A

(资料性附录)

凉茶饮料中最常用到的中药材原料

通用名称	基原 (/拉丁学名)
仙草	<i>Mesona chinensis</i> Benth.
鸡蛋花	<i>Plumeria rubra</i> L. cv. <i>Acutifolia</i>
布渣叶	<i>Microcos paniculata</i> L.
菊花	<i>Chrysanthemum morifolium</i> Ramat.
金银花	<i>Lonicera Japonica</i> Thunb.
夏枯草	<i>Prunella vulgaris</i> L.
甘草	<i>Glycyrrhiza uralensis</i> Fisch. <i>Glycyrrhiza inflata</i> Bat. <i>Glycyrrhiza glabra</i> L.
罗汉果	<i>Siraitia grosvenorii</i> (Swingle) C. Jeffrey ex A. M. Lu et Z. Y. Zhang
桑叶	<i>Morus alba</i> L.
淡竹叶	<i>Lophatherum gracile</i> Brongn.
荷叶	<i>Nelumbo nucifera</i> Gaertn.
青果	<i>Canarium album</i> Raeusch.
槐花	<i>Sophora japonica</i> L.
余甘子	<i>Phyllanthus emblica</i> L.
茯苓	<i>Poria cocos</i> (Schw.) Wolf
薏苡仁	<i>Coix lacryma-jobi</i> L. var. <i>mayuen</i> (Roman.) Stapf
葛根	<i>Pueraria lobata</i> (Willd.) Ohwi

鱼腥草	<i>Houttuynia cordata</i> Thunb.
桔梗	<i>Platycodon grandiflorum</i> (Jacq.) A. DC.
马齿苋	<i>Portulaca oleracea</i> L.
胖大海	<i>Sterculia lychnophora</i> Hance
赤小豆	<i>Vigna umbellata</i> Ohwi et Ohashi <i>Vigna angularis</i> Ohwi et Ohashi
莱菔子	<i>Raphanus sativus</i> L.
白果	<i>Ginkgo biloba</i> L.
玉竹	<i>Polygonatum odoratum</i> (Mill.) Druce
山药	<i>Dioscorea opposita</i> Thunb.

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Annex A (informative Annex) The most commonly used raw Chinese medicinal in Liang Cha

Foreword

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Canada:

Spain:

Australia:

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The drafting process of this standard conforms to SCM 0001-2009 *Working Regulations for Formulation and Publication of Standard* issued by the World Federation of Chinese Medicine Societies (WFCMS).

This document is approved by Board Council of WFCMS on ** **, 2018.

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Liang Cha

1 Scope

This document applies to pre-packaged Liang Cha as defined in 3.1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB 4789.26 National Standard for Food Safety Microbiological Examination in Food: Commercial sterilization

GB 5009.268 National Standard for Food Safety Determination Of Multi-Elements in Food

GB 5009.22 National Standard for Food Safety Determination of Aflatoxin Group B and G in Food

GB 5009.96 National Standard for Food Safety Determination of Ochratoxin A in Food

GB 7718 National Standard for Food Safety General Rules for Labeling of Pre-packaged Foods

GB 28050 National Standard for Food Safety General Rules for Nutrition Labeling of Pre-packaged Foods

GB/T 22388 Determination of melamine in raw milk and dairy products

CAC/GL66 GUIDELINES FOR THE USE OF FLAVOURINGS

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ISO 4832 Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coliforms - Colony-count technique

ISO 6579-1 Microbiology of the food chain —Horizontal method for the detection, enumeration and serotyping of Salmonella —Part 1: Detection of Salmonella spp.

FDA/BAM chapter 4 online Enumeration of Escherichia coli and the Coliform Bacteria

AOAC 975.55 Staphylococcus aureus in foods-surface plating method for isolation and enumeration

FDA/BAM chapter 18 online Yeasts, Molds and Mycotoxins

3 Term and definition

For the purposes of this document, the following term and definition apply.

3.1

Liang Cha

Pre-packaged herbal beverage based on theory of traditional Chinese Medicine, with one or more ingredients of grass jelly, frangipani, paniculate microcos leaf, chrysanthemum and etc. adding or not adding other raw plant materials or extracts, or other ingredients or food additives, processed by extraction, concentration, preparation and sterilization, filling (or sterilizing), packaging and other procedures.

4 Technical requirements

4.1 Raw materials requirements

Requirements for raw materials shall comply with corresponding standards, criteria and regulations in different countries and regions.

4.2 Appearance requirements

Appearance shall be in accordance with the labeled color, smell, flavor, etc. of plant ingredients made beverage

4.3 Physical and chemical requirements

Physical and chemical requirements shall accord with the requirements in Tab. 2.

Tab. 2 Physical and chemical requirements

Items	Indexes
soluble solids	≥0.5g/L
SO ₂ residue	≤10mg/L

4.4 Food additives requirements

Food additives shall comply with the food additives use requirements of beverage in relevant countries and regions.

4.5 Pollutant requirements

Pollutant shall be in accordance with requirements in Tab. 2.

Tab. 2 Pollutant requirements

Categories	Items	Indexes
Heavy metals	As	≤0.1mg/ L
	Pb	≤0.2mg/ L
	Hg	≤0.05mg/ L
	Cu	≤2.0mg/ L
	Sb (only applicable to canned products)	≤150mg/ L
Mycotoxins	Ochratoxin A	≤5μg/ L

	total aflatoxin (sum of B1, B2, G1 and G2)	≤5µg/ L
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4.6 Microbial indicators

4.6.1 Microbial indicators of the caned products shall comply with the requirements of commercial sterilization.

4.6.2 Microbial indicators of other packaged products shall comply with the requirements in Tab. 3.

Tab. 3 Microbial Requirements

	Sampling scheme and limit requirements			
	n	c	m	M
Aerobic Plate Count (CFU/mL)	5	0	200	/
Coliforms (CFU/mL)	5	0	0	/
Mold (CFU/mL)	≤ 20			
Yeast (CFU/mL)	≤ 20			
salmonella (/25mL)	5	0	0	/
SA (CFU/mL)	5	1	100	1000
Escherichia coli (CFU/mL)	5	0	0	/

n: the number of samples to be collected for the same batch of products;

c: the maximum number of samples that can be allowed to exceed m;

m: acceptable level limits for microbial indicators (tertiary sampling schemes) or maximum safety limits (secondary sampling schemes);

M: maximum safety limit of microbial indexes;

SA adopted three-stage sampling scheme, other microbes using two-stage sampling scheme.

4.7 Pesticide residue requirements

Pesticide residue shall be in accordance with standards and regulations of the maximum residue limits of pesticides for beverage products in corresponding countries and regions.

5 Test methods

5.1 Appearance test

Should comply with the product specification requirements .

5.2 Physical and chemical test

5.2.1 Soluble solids

The Test methods should comply with the requirement in AOAC 932.14 or other refractive methods.

5.2.2 Sulfur dioxide

The Test methods should comply with the requirement AOAC 990.28 or other distillation titration methods.

5.3 Pollutant test

5.3.1 As, Pb, Hg, Cu, Sb

The Test methods should comply with the requirement in GB 5009.268 or other international general ICP/MS or AAS methods. The detection limit of the method should comply with the requirements of compliance limit.

5.3.2 Total aflatoxin (sum of B1, B2, G1 and G2)

The Test methods should comply with the requirement in GB 5009.22 or other immunoaffinity chromatography purification liquid chromatography.

5.3.3 Ochratoxin A

The Test methods should comply with the requirement in GB 5009.96 or other immunoaffinity chromatography purification liquid chromatography.

5.4 Microbial test

5.4.1 Aerobic Plate Count

The Test methods should comply with the requirement in ISO 4833-1 or other international general method like AOAC and ISO.

5.4.2 Coliform

The Test methods should comply with the requirement in ISO 4832 or other international general method like AOAC and ISO.

5.4.3 Mold, yeast

The Test methods should comply with the requirement in FDA/BAM chapter 18 online or other international general method like AOAC and ISO.

5.4.4 Salmonella

The Test methods should comply with the requirement in ISO 6579-1 or other international general method like AOAC and ISO.

5.4.5 Staphylococcus aureus

The Test methods should comply with the requirement in FDA/BAM chapter 12 online or other international general method like AOAC and ISO.

5.4.6 Escherichia coli

The Test methods should comply with the requirement in FDA/BAM chapter 4 online or other international general method like AOAC and ISO.

5.4.7 Commercial sterilization

The Test methods should comply with the requirement in GB 4789.26 or other international general method like AOAC and ISO.

6 Label and packaging

6.1 Label

The label of the products shall be in accordance with standards or regulations of pre-packaged product label in the relevant countries or regions.

Nutritional components and tests include but not limited to the following items: energy, protein, fat, (total) carbohydrate, sodium, sugar (monosaccharide, disaccharide) or total sugar, moisture, ash, trans fat, saturated fat, dietary fiber, Vitamin D, cholesterol, calcium, iron, potassium, added sugar, sugar alcohol, etc.

6.2 Packaging

The package of the products shall be in accordance with standards or regulations in the relevant countries or regions.

Appendix A (Informative appendix)

The most commonly used raw Chinese medicinal in Liang Cha

Common Name	Latin name
Grass Jelly	Mesona chinensis Benth.
Frangipani	Plumeria rubra L. cv. Acutifolia
Paniculate Microcos Leaf	Microcos paniculata L.
Chrysanthemum Flower	Chrysanthemum morifolium Ramat.
Honeysuckle Flower	Lonicera Japonica Thunb.
Common Selfheal Fruit-Spike	Prunella vulgaris L.
Licorice	Glycyrrhiza uralensis Fisch. Glycyrrhiza inflata Bat. Glycyrrhiza glabra L.
Momordica grosvenori	Siraitia grosvenorii (Swingle) C. Jeffrey ex A. M. Lu et Z. Y. Zhang
Mulberry Leaf	Morus alba L.
Lophatherum Herb	Lophatherum gracile Brongn.
Lotus Leaf	Nelumbo nucifera Gaertn.
Chinese White Olive	Canarium album Raeusch.

Pagodatree Flower	<i>Sophora japonica</i> L.
Oil Orange	<i>Phyllanthus emblica</i> L.
Indian Bread	<i>Poria cocos</i> (Schw.) Wolf
Coix Seed	<i>Coix lacryma-jobi</i> L. var. <i>mayuen</i> (Roman.) Stapf
Kudzuvine Root	<i>Pueraria lobata</i> (Willd.) Ohwi
Heartleaf Houttuynia Herb	<i>Houttuynia cordata</i> Thunb.
Platycodon Root	<i>Platycodon grandiflorum</i> (Jacq.) A. DC.
Purslane Herb	<i>Portulaca oleracea</i> L.
Scaphium Scaphigerum	<i>Sterculia lychnophora</i> Hance
Phaseolus Calcaratus	<i>Vigna umbellata</i> Ohwi et Ohashi <i>Vigna angularis</i> Ohwi et Ohashi
Radish Seed	<i>Raphanus sativus</i> L.
Ginkgo Seed	<i>Ginkgo biloba</i> L.
Fragrant Solomonseal Rhizome	<i>Polygonatum odoratum</i> (Mill.) Druce
Common Yam Rhizome	<i>Dioscorea opposita</i> Thunb.