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DRAFT EAST AFRICAN STANDARD

Fruit juices, puree, pulp and nectars — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 025, *Processed fruits, vegetables* and tubers

Fruit juices, pulp and nectars — Specification

1 Scope

1.1 This draft East Africa Standard specifies requirements, sampling and test methods for fruit juices, pulp, nectars and fruit puree and concentrated fruit puree intended for direct human consumption or for further processing.

1.2 This standard also applies to the following fruit juices

a) concentrated fruit juices;

b) Fruit juice from concentrate;

c) Water extracted fruit juice;

d) Dehydrated fruit juice; and

e) Powdered fruit juice.

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.

CODEX STAN 192, *General standard for food additives*

EAS 12, *Potable water — Specification*

EAS 38, *Labelling for pre-packaged foods — General requirements*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 803, *Nutrition labelling — Requirements*

EAS 804, *Claims on food — Requirements*

EAS 805, *Use of nutrition and health claims — Requirements*

ISO 763, *Fruits and vegetable products — Determination of ash insoluble in hydrochloric acid*

ISO 2172, *Fruit juice — Determination of solids content — Pyknometric method*

ISO 2173, *Fruit and vegetable products — Determination of soluble solids — Refractometric method*

ISO 2448, *Fruit and vegetable products — Determination of ethanol content*

ISO 4833-2, *Methods for the microbiological examination of foods — Part 2: General Guidance for the*

Enumeration of Micro-Organisms-Colony Count Technique at 30 °C

ISO 2173, *Fruit and vegetable products — Determination of soluble solids — Refractometric method*

ISO 5522*, Fruits, vegetables and derived products — Determination of total sulphur dioxide content*

ISO 5523, *Liquid fruit and vegetable products — Determination of sulphur dioxide content — (Routine method)*

ISO 6633, *Fruits, vegetables and derived products — Determination of lead content — Flameless atomic absorption spectrometric method*

ISO 6634, *Fruits, vegetables and derived products — Determination of arsenic content — Silver diethyldithiocarbamate spectrophotometric method*

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*

ISO 21527-2, *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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
fruit juice
unfermented but fermentable liquid obtained from the edible part of sound, appropriately mature and fresh fruit or of fruit maintained in sound condition by suitable means

3.2
authenticity
maintenance of the product's essential physical, chemical, organoleptic, and nutritional characteristics of the fruit(s) from which it comes

3.3
Brix
Total soluble solids content of the juice

3.4
nectar
"unfermented but fermentable product obtained by adding water to either fruit juices, fruit puree, concentrated fruit puree, concentrated fruit juices, fruit juice from concentrate, water extracted fruit juice, dehydrated fruit juice, powdered fruit juice singly or in combination with or without the addition of sugars".

3.5
food grade material
material that will safeguard the hygienic, safety, nutritional, technological and organoleptic qualities of the product

3.6

fruit pulp
Edible portions of the fruit, mashed, or cut into pieces, but not reduced to a puree.

3.7
single strength fruit juice
is a natural liquid obtained from fruit without any blending or modification

3.8
Reconstituted juice
Reconstituted juice is unfermented but fermentable fruit juice produced from a juice concentrate that has been diluted with the same amount of water taken away during the concentration process

3.9
Fruit puree
unfermented but fermentable product obtained by suitable processes for example, by sieving, grinding, and milling the edible part of the whole or peeled fruit without removing the juice

4 Product description

4.1 Fruit juice

The juice is prepared by suitable processes, which maintain the essential physical, chemical, organoleptic and nutritional characteristics of the juices of the fruit from which it comes. The juice may be cloudy or clear and may have restored aromatic substances and volatile flavour components, all of which shall be obtained by suitable physical means, and all of which shall be recovered from the same kind of fruit.

Pulp and cells obtained by suitable physical means from the same kind of fruit may be added.

A single juice is obtained from one kind of fruit. A mixed juice is obtained by blending two or more juices or juices and purées, from different kinds of fruit.

Fruit juice is obtained as follows:

a) fruit juice directly expressed by mechanical extraction processes; and

b) fruit juice from concentrate by reconstituting concentrated fruit juice (4.2) with potable water that meets the requirements of EAS 12

Some juices may be processed with pips, seeds and peel, which are not usually incorporated in the juice, but some parts or components of pips, seeds and peel, which cannot be removed by Good Manufacturing Practices (GMP), will be acceptable.

4.2 Concentrated fruit juice

Concentrated fruit juice is the product that complies with the definition given in 3.1, except water has been physically removed in an amount sufficient to increase the Brix level to a value at least 50 % greater than the Brix value established for reconstituted juice from the same fruit, as indicated in the Table 1.

In the production of juice that is to be concentrated, suitable processes are used and may be combined with simultaneous diffusion of the pulp cells or fruit pulp by water provided that the water extracted soluble fruit solids are added in-line to the primary juice, before the concentration procedure.

Fruit juice concentrates may have restored (see Note 1 in 4.10) aromatic substances and volatile flavour components, all of which shall be obtained by suitable physical means, and all of which shall be recovered from the same kind of fruit. Pulp and cells (see Note 2 in 4.10) obtained by suitable physical means from the same kind of fruit may be added.

4.3 Fruit juice from puree

Is the unfermented but fermentable product obtained by adding a defined percentage of water to fruit puree.

Fruit Juice from purée may have restored aromatic substances and volatile flavour components, all of which shall be obtained by suitable physical means, and all of which shall be recovered from the same kind of fruit. Pulp and cells obtained by suitable physical means from the same kind of fruit may be added

4.4 Water extracted fruit juice

Water extracted fruit juice is the product obtained by diffusion with water of:

a) pulpy whole fruit whose juice cannot be extracted by any physical means;

b) dehydrated whole fruit; or

c) dehydrated/powdered fruit juice.

Water extracted fruit juice may be concentrated and reconstituted.

The solids content of the finished product shall meet the minimum Brix level for reconstituted juice specified in the Table 1 when tested in accordance with ISO 2172 or ISO 2173.

4.5 Fruit puree

Fruit puree for use in the manufacture of fruit juices and nectars. is the unfermented but fermentable product obtained by suitable processes for example, by sieving, grinding, and milling the edible part of the whole or peeled fruit without removing the juice. The fruit shall be sound, appropriately mature, and fresh or preserved by physical means or by treatment(s) applied in accordance with the applicable provisions of the East African Standard/Codex Alimentarius Commission.

Fruit puree may have restored aromatic substances and volatile flavour components, all of which shall be obtained by suitable physical means, and all of which shall be recovered from the same kind of fruit. Pulp and cells obtained by suitable physical means from the same kind of fruit may be added.

4.6 Concentrated fruit puree

Concentrated fruit puree for use in the manufacture of fruit juices and nectars is obtained by the physical removal of water from the fruit puree in an amount sufficient to increase the Brix level to a value at least 50 % greater than the Brix value established for reconstituted juice from the same fruit, as indicated in Table 1.

Concentrated fruit puree may have restored aromatic substances and volatile flavour components, all of which shall be obtained by suitable physical means, and all of which shall be recovered from the same kind of fruit.

4.7 Dehydrated/powdered fruit juice (fruit juice powder)

Dehydrated/powdered fruit juice is the product obtained from fruit juice of one or more kinds by the physical removal of virtually all the water content.

4.8 Fruit nectar

Fruit nectar is the unfermented but fermentable product obtained by adding water with or without the addition of sugars as defined in 5.1.2.1, honey and/or syrups as described in 5.1.2.2, and/or food additive sweeteners as listed in the CODEX STAN 192 to products such as fruit juices and fruit puree and concentrated fruit puree, concentrated fruit juices, fruit juice from concentrate, water extracted fruit juice, or to a mixture of those

products. Aromatic substances, volatile flavour components, pulp and cells all of which shall be recovered from the same kind of fruit and be obtained by suitable physical means may be added. That product moreover shall meet the requirements defined for fruit nectars in the Table 1. Mixed fruit nectar is obtained from two or more different kinds of fruits.

When non-nutritive sweetener is used the amount and type shall comply with clause 8 and it shall be declared as such in accordance with clause 11.

4.9 Fruit pulp

Edible portions of the fruit, mashed, or cut into pieces, but not reduced to a puree.

4.10 Blended or mixed fruit juice and nectar

Blended or mixed fruit juice and nectar is the unfermented but fermentable product obtained by adding water with or without the addition of sugars, syrups and/or honey, and/or sweeteners, obtained from two or more different kinds of fruits. The blend can be obtained from the following:

a. fruit juice,

b. fruit juice from concentrate,

c. concentrated fruit juice,

d. water extracted fruit juice,

e. dehydrated fruit juice,

f. powdered fruit juice,

g. fruit puree;

h. fruit pulp, and

i. concentrated fruit puree.

4.11 Fresh fruit juice

Fresh fruit juice is the unfermented but fermentable liquid obtained from the edible part of sound, appropriately mature, ripe and fresh fruit, freshly squeezed or extracted and packaged as appropriate and which:

a) contains no additives;

b) has not been subjected to any preserving process other than chilling;

c) free from exogenous foreign matter;

d) is practically free from endogenous foreign matter like seeds and bits of peel; and

e) is intended to be sold for consumption within two hours of extraction or six hours with refrigeration

NOTE 1 Introduction of aromas and flavours are allowed to restore the level of aromatic substances and volatile flavour components in accordance with good manufacturing practices (GMP).

NOTE 2 For citrus fruits, pulp or cells are the juice sacs obtained from the endocarp.

5 Requirements

5.1 Ingredients

5.1.1 Essential ingredients

5.1.1.1 Directly expressed fruit juices

The Brix level for directly expressed fruit juices shall be the Brix as expressed from the fruit and the soluble solids content of the single strength juice shall not be modified, except by blending with the juice of the same kind of fruit.

5.1.1.2 Reconstituted juice and nectar

The Brix level of the fruit juice that requires reconstitution of concentrated juices or dehydrated/powdered fruit juice (fruit juice powdered) shall be in accordance with the minimum Brix level established in Table 2, exclusive for the solids of any added optional ingredients and additives.

If there is no Brix level specified in Table 2, the minimum Brix shall be calculated on the basis of the soluble solids content of the single strength juice used to produce such concentrated juice.

The potable water used in reconstitution shall, at a minimum, meet the requirements of EAS 12.

5.1.2 Other permitted ingredients

5.1.2.1 Sucrose, glucose (dextrose anhydrous) or fructose with less than 2 % moisture may be added only to products intended for sale to the consumer or for catering purposes. Addition of both sugars (defined in 5.1.2.1 and 5.1.2.2) and acidifying agents (listed in CODEX STAN 192) to the same fruit juice is prohibited.

Table 1 – Requirements for name and Brix content of common fruit juices and nectars

Botanical Name	Fruit's Common Name	Minimum Brix level for Single Strength (100%) Fruit Juices, pulp, reconstituted fruit juices and Fruit puree	Minimum Single Strength (100%) Fruit Juice and/or Fruit puree, pulp content, for fruit nectars %, v/v[b)]
Actinidia deliciosa (A. Chev.) C. F. Liang & A. R. Fergoson	Kiwi	(*)[b)]	(*) [c)]
Anacardium occidentale L.	Cashewapple	11.5	25.0
Ananas comosus (L.) Merrill Ananas sativis L. Schult. f.	Pineapple	10	40.0
Annona muricata L.	Soursop	14.5	25.0
Annona squamosa L	Sugar Apple	14.5	25.0
Averrhoa carambola L.	Carambola / Starfruit	7.5	25.0
Carica papaya L.	Papaya	(*) [b)]	25.0
Chrysophyllum cainito	Star Apple	(*) [b)]	(*) [c)]
Citrullus lanatus (Thunb.) Matsum. & Nakai var. Lanatus	Water Melon	8.0	40.0

Botanical Name	Fruit's Common Name	Minimum Brix level for Single Strength (100%) Fruit Juices, pulp, reconstituted fruit juices and Fruit puree	Minimum Single Strength (100%) Fruit Juice and/or Fruit puree, pulp content, for fruit nectars %, v/v[b)]
Citrus aurantifolia (Christm.) (swingle)	Lime	8.0[c)]	According to the legislation of the importing country
Citrus aurantium L.	Sour Orange	(*)[b)]	50.0
Citrus limon (L.) Burm. *f. Citrus limonum* Rissa	Lemon	8.0[c)]	According to the legislation of the importing country
Citrus paradisi Macfad	Grapefruit	10.0[c)]	50.0
Citrus paradisi, Citrus grandis	Sweetie grapefruit	10.0	50.0
Citrus reticulata Blanca	Mandarine/ Tangerine	11.8[c)]	50.0
Citrus sinensis (L.)	Orange	10.	50.0
Cocos nucifera L.[d)]	Coconut	5.0	25.0
Cucumis melo L.	Melon	8.0	35.0
Cucumis melo L subsp. *melo* var. *inodorus* H. Jacq.	Casaba Melon	7.5	25.0
Cucumis melo L. subsp. *melo* var. *inodorus* H. Jacq	Honeydew Melon	10.0	25.0
Cydonnia oblonga Mill.	Quince	11.2	25.0
Diospyros khaki Thunb.	Persimmon	(*)[b)]	40.0
Empetrum nigrum L.	Crowberry	6.0	25.0
Eribotrya japonesa	Loquat	(*)[b)]	(*)[c)]
Eugenia syringe	Guavaberry Birchberry	(*)[b)]	(*)[c)]
Eugenia uniflora Rich.	Suriname Cherry	6.0	25.0
Ficus carica L.	Fig	18.0	25.0
Fortunella Swingle sp.	Kumquat	(*)[b)]	(*)[c)]
Fragaria x. ananassa Duchense*(Fragaria chiloensis* Duchesne *x Fragaria virginiana* Duchesne)	Strawberry	7.5	40.0

a)
If a juice is manufactured from a fruit not mentioned in the above list, it shall, nevertheless, comply with all the provisions of the Standard, except that the minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

b)
No data currently available. The minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

c)
Acid corrected as determined by the method for total titratable acids in Clause 10 on methods of analysis.

d) For mixed and blended fruit juices the Brix of the product shall be the minimum Brix level of the single fruit juice of the lowest Brix in the mix

Botanical Name	Fruit's Common Name	Minimum Brix level for Single Strength (100%) Fruit Juices, pulp, reconstituted fruit juices and Fruit puree	Minimum Single Strength (100%) Fruit Juice and/or Fruit puree, pulp content, for fruit nectars %, v/v[b)]
Genipa americana	"Genipap"	17.0	25.0
Hippophae elaeguacae	Sea Buckthorn	(*)[b]	25.0
Hipppohae rhamnoides L.	Buckthornberry = Sallow-thornberry	6.0	25.0
Litchi chinensis Sonn.	Litchi/Lychee	11.2	20.0
Lycopersicum esculentum L.	Tomato	5.0	50.0
Malpighia sp. (Moc. & Sesse)	Acerola (West Indian Cherry)	6.5	25.0
Malus domestica Borkh.	Apple	10	50.0
Malus prunifolia (Willd.) Borkh. *Malus sylvestris* Mill.	Crab Apple	15.4	25.0
Mammea americana	Mammee Apple	(*)[b)]	(*)[c)]
Mangifera indica L	Mango	13.	25.0
Morus sp.	Mulberry	(*)[b)]	30.0
Musa species including *M. acuminata* and *M. paradisiaca* but excluding other plantains	Banana	12	25.0
Passiflora edulis	Yellow Passion Fruit	(*)[b)]	(*)[c)]
Pasiflora edulis Sims. f. edulus Passiflora edulis Sims. f. Flavicarpa O. Def.	Passion Fruit	12[c)]	25.0
Passiflora quadrangularis	Passion Fruit	(*)[b)]	(*)[c)]
Phoenix dactylifera L.	Date	18.5	25.0
Pouteria sapota	Sapote	(*)[b)]	(*)[c)]
Prunus armeniaca L.	Apricot	11.5	40.0
Prunus avium L.	Sweet Cherry	20.0	25.0
Prunus cerasus L.	Sour Cherry	14.0	25.0
Prunus cerasus L. cv. Stevnsbaer	Stonesbaer	17.0	25.0
Prunus domestica L. subsp. *domestica*	Plum	12.0	50.0
Prunus domestica L. subsp. *domestica*	Prune	18.5	25.0
Prunus domestica L. subsp. *domestica*	Quetsche	12.0	25.0
Prunus persica (L.) Batsch var. *nucipersica* (Suckow) c. K. Schneid.	Nectarine	10.5	40.0

[a)] If a juice is manufactured from a fruit not mentioned in the above list, it shall, nevertheless, comply with all the provisions of the standard, except that the minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

[b)] No data currently available. The minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

[c)] Acid corrected as determined by the method for total titratable acids in the Section on methods of analysis.

Botanical Name	Fruit's Common Name	Minimum Brix level for Single Strength (100%) Fruit Juices, pulp, reconstituted fruit juices and Fruit puree	Minimum Single Strength (100%) Fruit Juice and/or Fruit puree, pulp content, for fruit nectars %, v/v[b)]
Prunus persica (L.) Batsch var. *persica*	Peach	10.5	40.0
Prunus spinosa L.	Sloe	6.0	25.0
Psidium guajava L.	Guava	8.5	25.0
Punica granatum L.	Pomegranate	12.0	25.0
Pyrus arbustifolia (L.) Pers.	Aronia/Chokeberry	(*)[b]	(*)[c]
Pyrus communis L.	Pear	12.0	40.0
Ribes nigrum L.	Black Currant	11.0	30.0
Ribes rubrum L.	Red Currant	10.0	30.0
Ribes rubrum L.	White Currant	10.0	30.0
Ribes uva-crispa	Red Gooseberry	(*)[b]	30.0
Ribes uva-crispa L.	Goosberry	7.5	30.0
Ribes uva-crispa L.	White Goosberry	(*)[b]	30.0
Rosa canina L.	Cynorrhodon	(*)[b]	40.0
Rosa sp. L.	Rosehip	9.0	40.0
Rubus chamaemorus L.	Cloudberry	9.0	30.0
Rubus chamaemorus L. *Morus* hybrid	Mulberry	(*)[b]	40.0
Rubus fruitcosus L.	Blackberry	9.0	30.0
Rubus hispidus (of North America) *R. caesius* (of Europe)	Dewberry	10.0	25.0
Rubus idaeus L. *Rubus strigosus* Michx.	Red Raspberry	8.0	40.0
Rubus loganobaccus L. H. Bailey	Loganberry	10.5	25.0
Rubus occidentalis L.	Black Raspberry	11.1	25.0
Rubus ursinus Cham. & Schltdl.	Boysenberry	10.0	25.0
Rubus vitifolius x Rubus idaeus Rubus baileyanis	Youngberry	10.0	25.0
Sambucus nigra L. *Sambucus canadensis.*	Elderberry	10.5	50.0
Solanum quitoense Lam.	"Lulo"	(*)[b]	(*)[c]
Sorbus aucuparia L.	Rowanberry	11.0	30.0
Sorbus domestica	Sorb	(*)[b]	30.0
Spondia lutea L.	"Cajá"	10.0	25.0
Spondias tuberosa Arruda ex *Kost.*	"Umbu"	9.0	25.0
Syzygiun jambosa	Pome Apple	(*)[b]	(*)[c]

[a)] If a juice is manufactured from a fruit not mentioned in the above list, it shall, nevertheless, comply with all the provisions of the standard, except that the minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

[b)] No data currently available. The minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

[c)] Acid corrected as determined by the method for total titratable acids in the Section on methods of analysis.

Botanical Name	Fruit's Common Name	Minimum Brix level for Single Strength (100%) Fruit Juices, pulp, reconstituted fruit juices and Fruit puree	Minimum Single Strength (100%) Fruit Juice and/or Fruit puree, pulp content, for fruit nectars %, v/v[b)]
Tamarindus indica	Tamarind (Indian date)	13.0	Adequate content to reach a minimum acidity of 0.5
Theobroma cacao L.	Cocoa pulp	14.0	50.0
Theobroma grandiflorum L.	"Cupuaçu"	9.0	35.0
Vaccinium macrocarpon Aiton *Vaccinium oxycoccos* L.	Cranberry	7.5	30.0
Vaccinium myrtillus L. *Vaccinium corymbosum* L. *Vaccinium angustifolium*	Bilberry/Blueberry	10.0	40.0
Vaccinium vitis-idaea L.	Lingonberry	10.0	25.0
Vitis *Vinifera* L. or *hybrids thereof* Vitis *Labrusca* or *hybridsthereof*	Grape	16.0	50.0
	Other: High acidity		Adequate content to reach a minimum acidity of 0.5
	Other: High pulp content, or Strong flavour		25.0
	Other: Low acidity, Low pulp content, or Low/medium flavour		50.0

[a] If a juice is manufactured from a fruit not mentioned in the above list, it shall, nevertheless, comply with all the provisions of the Standard, except that the minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

[b] No data currently available. The minimum Brix level of the reconstituted juice shall be the Brix level as expressed from the fruit used to make the concentrate.

[c] Acid corrected as determined by the method for total titratable acids in the Section on methods of analysis.

5.1.2.2 Syrups, liquid sucrose, invert sugar solution, invert sugar syrup, fructose syrup, liquid cane sugar, isoglucose and high fructose syrup may be added only to fruit juice from concentrate, concentrated fruit juices (4.2), concentrated fruit puree (4.5) and fruit nectars (4.7).

5.1.2.3 Honey and Sugars derived from fruits may be added only to fruit nectars.

5.1.2.4 Lemon (Citrus limon (L.) Burm. f. Citrus limonum Rissa) juice or lime (Citrus aurantifolia (Christm.)) juice, or both, may be added to fruit juice up to 3 g/L anhydrous citric acid equivalent for acidification purposes to unsweetened juices as defined in 4.1, 4.2, 4.3, 4.4 and 4.5.

Lemon juice or lime juice, or both, may be added up to 5 g/L anhydrous citric acid equivalent to fruit nectars as defined in 4.6.

5.1.2.5 The juice from Citrus reticulata and/or hybrids with reticulata may be added to orange juice in an amount not to exceed 10 % of soluble solids of the reticulata to the total of soluble solids of orange juice.

5.1.2.6 Salt and spices and aromatic herbs (and their natural extracts) may be added to tomato juice.

5.1.2.7 For the purposes of product fortification, essential nutrients such as vitamins and minerals may be added to fruit juice (Clause 4). Such additions shall comply with national legislation established for this purpose.

NOTE Any optional ingredients added are subject to ingredient labelling requirements (see Clause 11).

5.2 General requirements

The fruit juices and fruit nectars shall have the characteristic colour, aroma and flavour of juice from the same kind of fruit from which it is made.

5.3 Specific requirements

5.3.1 The fruit juices and fruit nectars shall comply with the specific requirements in Table 2 when tested in accordance with the methods specified therein.

Table 2 — Specific requirements for fruits juices and nectars

Characteristic	Requirement	Test method
Ethanol content, %, max.	0.3	ISO 2448
Acid insoluble ash, %, max.	0.1	ISO 763
Carbon dioxide (CO_2) content (if added)	Not less than one gas volume	Annex A

5.3.2 The minimum juice and/or purée content for fruit juices and nectar shall comply with the requirements given in Table 1 in line with Good Manufacturing Practice.

5.3.3 The minimum Brix for fruit juices and nectar shall comply with the requirements given in Table 1 when tested in accordance with ISO 2173.

6 Food additives and processing aids

6.1 Fruit juices and nectar may contain only permitted additives in accordance with CODEX STAN 192.

6.2 Food processing aids listed in Table 3 may be used in the processing of products subject to this standard.

Table 3 – Maximum level of use of food processing aids in line with good manufacturing practices

Function	Substance
Antifoaming Agent	Polydimethylsiloxane[a)]
Clarifying Agents	Adsorbent clays (bleaching, natural or activated earths)
	Adsorbent resins
	Activated carbon (only from plants)
	Bentonite
	Calcium hydroxide[b)]
	Cellulose
	Chitosan
	Colloidal silica
	Diatomaceous earth
	Gelatin (from skin collagen)

	Ion exchange resins (cation and anion)
Filtration Aids	Isinglass[c)]
Flocculating Agents	Kaolin
	Perlite
	Polyvinylpolypyrrolidone
	Potassium casseinate[c)]
	Potassium tartrate[b)]
	Precipitated calcium carbonate[b)]
	Rice hulls
	Silicasol
	Sodium caseinate[c)]
	Sulphur dioxide[b), d)]
	Tannin
Enzyme preparations[e]	Pectinases (for breakdown of pectin), Proteinases (for breakdown of proteins), Amylases (for breakdown of starch) and Cellulases (limited use to facilitate disruption of cell walls).
Packing gas[f]	Nitrogen Carbon dioxide

a) 10 mg/L is the maximum residue limit of the compound allowed in the final product.

b) Only in grape juice

c) Use of these processing aids should take into account their allergenic potential. If there is any carryover of these processing aids into finished product, they are subject to ingredient declaration in accordance with EAS 38.

d) 10 mg/L maximum limit (as residual SO_2) when determined in accordance with ISO 5522 and ISO 5523

e) Enzyme preparations may be used as processing aids provided these preparations do not result in a total liquefaction and do not substantially affect the cellulose content of the processed fruit.

f) May also be used for example, for preservation

7 Contaminants

7.1 Pesticide residues

Fruit juices and nectar shall comply with the pesticide residue limits prescribed by the Codex Alimentarius Commission of the respective commodity.

7.2 Heavy metal contaminants

The maximum limit of Lead (Pb) in fruit juices and nectar when determined in accordance with ISO 6633 shall not exceed 0.03 mg/kg

8 Hygiene

8.1 Fruit juices and nectar shall be produced and handled under hygienic conditions in accordance with EAS 39.

8.2 Fruit juices and nectar shall comply with microbiological limits given in Table 5 when tested in

accordance with the methods specified therein.

Table 4 — Microbiological limits in fruit juices and nectars

Microorganism	Maximum limit cfu/g	Test method
Total viable count	10^3	ISO 4833-2
Escherichia coli	Absent	ISO 16649-2
Yeasts and moulds	30	ISO 21527-1

9 Packaging

Fruit juices and nectars shall be packaged in food grade material that ensures the integrity and safety of the product.

10 Labelling

10.1 General labeling requirements

In addition to the requirements of EAS 38, EAS 803, EAS 804 and EAS 805, the following specific labelling requirements shall apply and shall be legibly and indelibly marked on the container:

a) Name of the product

The fruit name shall be filled in the blank of the product name mentioned under this clause. These names mayonly be used if the product conforms to the definition in 4.1 or which otherwise conform to this standard.

The name of the product shall bear the name of the fruit used as defined in 4.1 as follows:

i. Fruit Juice: “_____juice” or “juice of_____”;

ii. Concentrated fruit juice: “concentrated_____juice” or “_____juice concentrate”;

iii. Water extracted fruit juice “water extracted_____juice” or “water extracted juice of_____”;

iv. Fruit puree; “_____purée” or “Puree of_____”;

v. Concentrated Fruit puree; “concentrated_____puree” or “_____purée concentrate”;

vi. Fruit Nectar; “_____nectar” or “nectar of_____”;

vii. Fruit juice blend: In the case of fruit juice products (4.1) manufactured from two or more fruits, the product name shall include the names of the fruit juices comprising the mixture in descending order of proportion by weight (m/m) or the words "fruit juice blend", " a fruit juice mixture", "mixed fruit juice" or other similar wording; and

viii. Products from concentrate: For fruit juices, fruit nectars and mixed fruit juice/nectar, if the product contains or is prepared from concentrated juice and water or the product is prepared from juice from concentrate and directly expressed juice or nectar, the words “from concentrate” or “reconstituted” shall be entered in conjunction with or close to the product name, standing out well from any background, in clearly visible characters, not less than half the height of the letters in the name of the juice.

ix. Fruit pulp; “----pulp ” or “pulp of

b) date of manufacture;

c) expiry date;

d) brand /trade name;

e) list of ingredients;

f) net contents;

g) instructions for use;

h) storage conditions;

i) name and address of the manufacturer; and

j) country of origin.

10.2 Additional requirements

10.2.1 Products prepared by physically removing water from the fruit juice

For fruit juices, fruit nectars, fruit puree and mixed fruit juices/nectars/purées, if the product is prepared by physically removing water from the fruit juice in an amount sufficient to increase the Brix level to a value at least 50 % greater than the Brix value established for reconstituted juice from the same fruit, as indicated in Table 1, it shall be labelled “concentrated”.

10.2.2 Products one or more of the optional sugar or syrup ingredients are added

For products defined in 4.1 to 4.10, where one or more of the optional sugar or syrup ingredients as are added, the product name shall include the statement called “sugar(s) added” after the fruit juice or mixed fruit juice’s name.

When food additive sweeteners are employed as substitutes for sugars in fruit nectars and mixed fruit nectars, the statement, “with sweetener(s),” shall be included in conjunction with or in close proximity to the product name.

If non- nutritive sweetener is used, the following words ‘contain non-nutritive sweetener for special dietary use’ shall be declared on the label in close proximity.

The name, type and the amount of non-nutritive sweeteners used shall be indicated in the label.

10.2.3 Products to be reconstituted before consumption

Where concentrated fruit juice, concentrated fruit puree, concentrated fruit nectar or mixed concentrated fruit juice/nectar/purée is to be reconstituted before consumption as fruit juice, fruit puree, fruit nectar or mixed fruit juices/nectars/purées, the label shall bear appropriate directions for reconstitution on a volume/volume basis with water to the applicable Brix value in the Table 1 for reconstituted juice.

10.2.4 Varietal denominations

Distinct varietal denominations may be used in conjunction with the common fruit names on the label where such use is not misleading.

10.2.5 Juice content declaration

Fruit nectars and mixed fruit nectars shall be conspicuously labelled with a declaration of “juice content_%” with the blank being filled with the percentage of purée and/or fruit juice computed on a volume/volume basis.

The words “juice content_%” shall appear in close proximity to the name of the product in clearly visible characters, not less than half the height of the letters in the name of the juice.

10.2.6 Nutrition declaration

Any added essential nutrients declaration shall be labelled in accordance with EAS 803, EAS 804 and EAS 805.

An ingredient declaration of “ascorbic acid” when used as an antioxidant does not, by itself, constitute a “Vitamin C” claim.

For fruit nectars in which a food additive sweetener has been added in order to replace wholly or in part the added sugars or other sugars or syrups, including honey and/or sugars derived from fruits any nutrient content claims related to the reduction in sugars shall conform to EAS 803, EAS 804 and EAS 805.

10.2.7 Pictorial representations

A pictorial representation of fruit(s) on the label shall not mislead the consumer with respect to the fruit so illustrated.

10.2.8 Products containing added carbon dioxide

Where the product contains added carbon dioxide more than one volume the term “carbonated” or “sparkling” shall appear on the label near the name of the product.

10.2.9 Tomato juice containing spices and/or aromatic herbs

Where tomato juice contains spices and/or aromatic herbs in accordance with 5.1.2.6 the term “spiced” and/or the common name of the aromatic herb shall appear on the label near the name of the juice.

10.2.10 Juice containing added pulp, cells, aromatic substances or volatile flavour components

Pulp and cells added to juice over that normally contained in the juice shall be declared in the list of ingredients.

Aromatic substances, volatile flavour components, pulp and cells added to nectar over that normally contained in the juice shall be declared in the list of ingredients.

10.3 Non-retail containers

Information for non-retail containers not destined to final consumers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, net contents and the name and address of the manufacturer, packer, distributor or importer, as well as storage instructions, shall appear on the container, except that for tankers the information may appear exclusively in the accompanyingdocuments.

However, lot identification, and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents. For non retail containers, the information required shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and addressof the manufacturer or packer shall appear on the container.

11 Sampling

Sampling shall be done in accordance with Annex B.

Annex A
(normative)

Method of measuring gas volume

A.1 Principle

The method involves snifting of the top gas. The pressure reading should drop to 2 psi, to remove the air before testing for carbon dioxide volume. In so doing correction of altitude as per table should be considered as pressure is affected by altitude.

The apparatus consists of pressure gauge having a hollow spike with holes in its side. The bottle is inserted from the side into the slot provided in the neck of the carbon dioxide tester and is secured in place by tightening with a threaded system. The pressure gauge is inserted until the needle point touches the crown cork. There is a snift valve on the gauge stem which is kept closed until the needle point of the pressure gauge is forced through the crown cork. The reading is noted on the gauge.

A.2 Procedure

Clamp the bottle in the frame of the gas volume tester. Pierce the crown cork but do not shake the bottle. Snift off the top gas quickly until the gauge reading drops to zero. Make certain to close the valve instantly the needle touches zero in the pressure gauge. Shake the bottle vigorously until the gauge gives the reading that additional shaking does not change. Record the pressure. Note the temperature and record. Obtain the volume of gas from pressure-temperature chart (Carbon dioxide chart)

Annex B
(normative)

Sampling

B.1 Definitions

B.1.1 lot
collection of primary containers or units of the same size, type, and style manufactured or packed under similar conditions and handled as a single unit of trade

B.1.2 lot size
number of primary containers or units in the lot

B.1.3 sample size
total number of sample units drawn for examination from a lot

B.1.4 sample unit
container, a portion of the contents of a container, or a composite mixture of product from small containers that is sufficient for the examination or testing as a single unit. For fill of container, the sample unit shall be the entire contents of the container

B.2 Sampling plans

Sampling shall be done in accordance with the plan specified in Table B.1.

Table B.1 – Sampling plan

Lot size (primary containers)	**Size of container, *n* [a]**
Net weight equal to or less than 1 kg (2.2 lb)	
4 800 or less	13
4 801 to 24 000	21
24 001 to 48 000	29
48 001 to 84 000	48
84 001 to 144 000	84
144 001 to 240 000	126
Over 240 000	200
Net weight greater than 1 kg (2.2 lb) but not more than 4.5 kg (10 lb)	

2 400 or less	13
2 401 to 15 000	21
15 001 to 24 000	29
24 001 to 42 000	48
42 001 to 72, 000	84
72 001 to 120 000	126
Over 120 000	200
Net weight greater than 4.5 kg (10 lb)	
600 or less	13
601 to 2 000	21
2 001 to 7 200	29
7 201 to 15 000	48
15 001 to 24 000	84
24 001 to 42 000	126
Over 42 000	200
[a] *n* = number of primary containers in sample.	

Bibliography

EAS 77-1: 2000, Soft f*ruit juice — Specification — Part 1: Soft drinks and fruit juice*