# DRAFT INTERNATIONAL STANDARD ISO/DIS 24081

ISO/TC 34/SC 3

Voting begins on: **2020-05-04** 

Secretariat: **TSE** 

Voting terminates on: 2020-07-27

## Ground cassava leaves (ISOMBE) — Specification

ICS: 67.080.20



THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION. This document is circulated as received from the committee secretariat.



Reference number ISO/DIS 24081:2020(E)





## **COPYRIGHT PROTECTED DOCUMENT**

#### © ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Fax: +41 22 749 09 47 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Page

## Contents

Fore	eword	iv				
Intro	oduction	v				
1	Scope					
2	Normative references					
3	Terms and definitions					
4	<ul> <li>Essential composition and quality factors</li> <li>4.1 Raw material</li> <li>4.2 Essential composition factors</li> <li>4.3 General quality factors</li> <li>4.4 Specific quality factors</li> <li>4.4.1 Particle size</li> <li>4.4.2 Hydrocyanic acid content</li> </ul>	2 2 2 2 2 2 2 3 3 3 3 3 3				
5	Food additives         5.1       Heavy metals         5.2       Pesticide residues         5.3       Mycotoxins	3 3 3 3 3				
6	Hygiene					
7	Packaging V H.ar Har					
8	Labelling					
9	Method of sampling					
10	Criteria for conformity Stratt 11 stratter					
Bibli	iography set in the set of the se	6				
	https://stantarts.ich.philing.					

### ISO/DIS 24081:2020(E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. <u>www.iso.org/directives</u>

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. <u>www.iso.org/patents</u>

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is 190/TC 34, Food products, Subcommittee SC 3, Fruits and vegetables and their derived products, Subcommittee SC 3, Fruits in the standard standard

## Introduction

Cassava, originally from Brazil, is a staple root crop throughout the tropics where it is used in a variety of dishes. Cassava is grown overwhelmingly for its roots and is found in markets.

In some countries there is a market for cassava leaves, where it is used in soups and stews. Cassava contains cyanide, which varies greatly among cultivars, and needs to be detoxified before human consumption. Cassava roots are cooked and this will sufficiently detoxify them. Cassava leaves also contain cyanide and research has shown that traditional methods for preparing cassava leaves for consumption, that include grinding, cooking and heat-treating them before consumption sufficiently detoxify the cyanide (Aduni, U.A., et al., 2008).

Henry Standards in the same of the standards in the second and standards and standards and standards and the standards a

## Ground cassava leaves (ISOMBE) — Specification

### 1 Scope

This Standard specifies requirements and methods of sampling and test for ground cassava leaves, which is obtained from the processing of fresh cassava leaves (*Manihot esculenta* Crantz or *Manihot glaziovii*) intended for human consumption

#### 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 193, Codex General Standard for Contaminants and Toxins in Food and Feed

CODEX STAN 1-1985, General standard for the labelling of pre-packaged foods

ISO 874, Fresh fruits and vegetables — Sampling

ISO 16050, Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products — High-performance liquid chromatographic method

ISO 16649-1, Microbiology of the food chain — Horizontal method for the enumeration of betaglucuronidase-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 21527-1, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 1: Colony count technique in products with water activity greater than 0,95

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

ISO 2171, Cereals, pulses and by products — Determination of ash yield by incineration

ISO 3094, Fruit and vegetable products — Determination of copper

ISO 4833-1, *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 4833-2, 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 5498, Agricultural food products — Determination of crude fibre content — General method

ISO 6579-1:2017, *Microbiology of the food chain* — *Horizontal method for the detection, enumeration and serotyping of Salmonella* — *Part 1: Detection of Salmonella spp.* 

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 6637, Fruits, vegetables and derived products — Determination of mercury content — Flameless atomic absorption method

### ISO/DIS 24081:2020(E)

ISO 1026, Fruit and vegetable products — Determination of dry matter content by drying under reduced pressure and of water content by azeotropic distillation

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 763:2003, Fruit and vegetable products — Determination of ash insoluble in hydrochloric acid

CAC/RCP1-1969, Code of practice-General principles for food hygiene

CODEX STAN 192-1995 GENERAL STANDARD FOR FOOD ADDITIVES

### 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:

- IEC Electropedia: available at http: //www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

#### 3.1 Ground cassava leaves

the product prepared from fresh cassava leaves by pounding or grinding and detoxified from cyanide by heat treatment.

#### 4 Essential composition and quality factors

#### 4.1 Raw material

Fresh cassava leaves complying with RS EAS 780

#### 4.2 Essential composition factors

Ground cassava leaves shall conform to the compositional requirements in <u>Table 1</u>.

S/N	Characteristics	Requirement	Method of test
1	Crude ash content, % by mass on dry matter basis, max.	3.0	ISO 2171
2	Moisture content, % by mass, max.	13	ISO 1026
3	Crude fibre content, % by mass on a dry matter basis, max.	2.0	ISO 5498
4	Acid insoluble ash, % by mass, max.	0.35	ISO 763:2003 Fruit and vegetable products-De- termination of ash insol- uble in hydrochloric acid

#### Table 1 — Compositional requirements for Ground cassava leaves

#### 4.3 General quality factors

Ground cassava leaves shall be

- a) free from filth (impurities of animal origin, including dead insects) in amounts that may represent a hazard to human health;
- b) free from abnormal flavours, odours, and living insects;

- c) safe and suitable for human consumption;
- d) tender;
- e) fresh in appearance and smell;
- sound/wholesome; f)
- g) free of damage caused by unsuitable washing or soaking;
- h) practically free of any visible foreign and extraneous matter; and
- i) free of any foreign smell and odour.

#### 4.4 Specific quality factors

#### 4.4.1 Particle size

Not less than 90 % shall pass through a 0.60 mm sieve for fine ground leaves and not less than 90 % shall pass through a 1.20 mm sieve for coarse ground leaves.

#### Hydrocyanic acid content 4.4.2

The total hydrocyanic acid content shall not exceed 10 mg/kg, when tested in accordance with RS EAS 744.

**5 Food additives** The product may contain only permitted additives in accordance with CODEX STAN 192-1995

#### 5.1 Heavy metals

Ground cassava leaves shall be free from heavy metals in amounts, which may represent a hazard to human health and shall conform to the limits in Table 2.

S/N	Heavy metals	Maximum Limits, mg/kg	Method of Test
1	Copper	2.0	ISO 3094
2	Lead	0.1	ISO 6633
3	Arsenic	0.1	ISO 6634
4	Mercury	0.01	ISO 6637

 Table 2 — Limits for metal contaminants

#### 5.2 Pesticide residues

Ground cassava leaves shall conform to those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

#### 5.3 **Mycotoxins**

Ground cassava leaves shall conform to those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity.