

SPECIFICATION FOR MALAYSIAN COCOA BUTTER

MS 1118 : 1988

1. SCOPE

- 1.1 This standard specification prescribes the requirements for pure prime-pressed and refined pure prime-pressed cocoa butter.

2. DESCRIPTION

- 2.1 Cocoa butter. Cocoa butter is the fat produced from one or more of the following: Cocoa beans, cocoa bib, cocoa mass, cocoa mass, cocoa press cake, or cocoa dust (defined in A1.1 and A2.1 on appendix A), by a mechanical process. Cocoa butter shall not contain shell fat or germ fat in excess of the proportion in which they occur in the whole bean.

Cocoa butter may be treated as follows:

- a. filtered, centrifuged;
- b. degummed, deodorized by steam under vacuum and all other normal methods of deodorization;
- c. treated with alkali or a similar substance normally used for neutralizing;
- d. treated with compounds normally used for bleaching.

- 2.2 Categories of Malaysian cocoa butter

2.2.1 Pure prime-pressed cocoa butter. Pressed cocoa butter is the fat which is obtained by hydraulic pressing of cocoa nib or cocoa mass (cocoa liquor) obtained from cocoa beans as described in A1.1 of Appendix A and complying with the minimum quality specification in A2.1 of Appendix A. It may only be treated in 2.1(a) and 2.1(b), in which case, the additional term 'deodorized' is applicable.

2.2.2 Refined pure prime-pressed cocoa butter. Refined pure prime-pressed cocoa butter is the fat obtained by any of the means described in 2.2.1 which has been treated as indicated in 2.1(a) and 2.1(b) and which has received either or both of the treatments in 2.1(c) and 2.1(d).

3. ESSENTIAL COMPOSITION AND QUALITY REQUIREMENTS

- 3.1 Identification

3.1.1 The colour, odour and taste of both types of cocoa butter shall be characteristic of the designated product and shall be free from foreign odour and taste

3.1.2 The solid fat content of Malaysia cocoa butter is shown in Table 1.

- 3.2 Analytical characteristics

3.2.1 Both types of cocoa butter shall display characteristics in Table 2.

4. METAL TOLERANCE

	Maximum level (ppm)
4.1 Arsenic (As)	0.5
4.2 Copper (Cu)	0.4
4.3 Lead (Pb)	0.5

5. HYGIENE

5.1 The hygienic practices shall comply with all the relevant statutory requirements or regulations relative to food processing, packaging, handling and hygienic currently enforced in Malaysia.

5.2 To the extent possible in good manufacturing practice, the products shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and analysis the products shall not contain any substances originating from microorganisms in amounts which may represent a hazard to health.

5.4 When tested by appropriate methods of sampling and analysis the products shall be free of pathogenic micro-organisms.

6. LABELLING

- 6.1 Designated of the product

6.1.1 Pure prime pressed cocoa butter. Products described in 2.2.1 and complying with the requirements of 3.1.1 and 3.1.2 of the standard shall be designated 'pure prime pressed cocoa butter'. If the product has been deodorized by steam and/or vacuum and all other normal methods of deodorization [as indicated in 2.1(b)], the designated shall include the term 'deodorized'.

6.2.2 Refined pure prime-pressed cocoa butter. Products described in 2.2.2 and complying with the requirements of 3.1.1 and 3.1.2 of the standard shall be designated 'refined pure prime-pressed cocoa butter'. If the product has been deodorized by steam and/or vacuum and all other normal methods of

deodorization [as indicated in 2.1(b)], the designated shall include the term 'deodorized'.

- 6.2 Name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the food shall be declared.
- 6.3 Net content. The net content shall be declared by weight in the metric or any other system of measurement.
- 6.4 Bulk packs. The information required by 6.1 to 6.3 shall either be given on the container or be given in accompanying documents except that the name of the product and the name and address of the manufacturer or packer shall appear on the container. However, the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying document.
- 6.5 Lot identification. Each container shall be embossed or otherwise permanently marked, in code or in detail to identify the producing factory and the lot.
- 6.6 Each package and container may by arrangement with the Standards and Industrial Research Institute of Malaysia.
7. **STORAGE**
 - 7.1 Recommendations relating to storage are given as a guide in Appendix B.
8. **LEGAL REQUIREMENTS**
 - 8.1 The product shall in all other aspects comply with the requirements of the legislations currently enforced in the country.
9. **ANALYSIS**
 - 9.1 Analysis shall be carried out in accordance with the products laid down in MS _____*.
 - 9.2 **Quality of reagents.** Unless otherwise specified, pure chemicals and distilled water** or water of equivalent purity shall be used in the tests.
 - 9.3 **Test report.** The test reports shall show the method used and the result obtained. It shall also mention any operations not specified in this Malaysian Standard, or regarded as optional as well as any circumstances that may have influenced the results. The report shall include all details required for complete identification of the sample.
10. **SAMPLING**
 - 10.1 Sampling procedure shall be done in accordance o MS _____+.
11. **COMPLIANCE**
 - 11.1 If, on testing, each of the sample is found to conform to the requirements specified in this standard, the lot, batch or consignment from which the samples have been drawn, shall be deemed to comply with the standard.

*MS 1119, 'Methods of analysis for Malaysian cocoa butter and Malaysian cocoa powder'.

**MS 510, 'Specification for water for laboratory use'.

+MS _____, 'Method of sampling for Malaysian cocoa butter and Malaysian cocoa powder' (under preparation).

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Appendix A

Definitions and essential composition of cocoa beans, cocoa nib, cocoa mass and cocoa press cake

A1. DESCRIPTIONS

- A1.1 **Cocoa beans** are the seeds of the cocoa tree (*Theobroma cacao* Linnaeus), which have been fermented and dried. They shall be practically free from:
 - (a) broken beans;
 - (b) insect-damaged beans
 - (c) flat beans;
 - (d) fragments;
 - (e) Germinated beans;
 - (f) Mouldy beans;
 - (g) Objectionable foreign matter or odour;
 - (h) Pieces of shell;
 - (j) Smoky beans;
 - (k) Slaty beans;
- A1.1.1 Broken bean. A cocoa bean of which a fragment of cotyledon is missing, the missing part being equivalent to less than half the bean.
- A1.1.2 Insect-damaged bean. A cocoa bean, the internal parts of which are found to contain insects at any stage of development, or have been attacked by insects which have inflicted damage visible to the naked eye.
- A1.1.3 Flat bean. A cocoa bean of which the cotyledons are too thin to be cut to give a full length of the cotyledon surface.

- A1.1.4 Fragment. A piece of cocoa bean equal to or less than half the original bean.
- A1.1.5 Germinated bean. A cocoa bean where the shell has been pierced, slit or broken by the growth of the seed germ.
- A1.1.6 Mouldy bean. A cocoa bean on the internal parts of which mould is visible to the naked eye.
- A1.1.7 Slaty bean. A cocoa bean which shows a slaty colour on half or more of the surface exposed by a cut made lengthwise through the centre.
- A1.2 **Cocoa dust or cocoa fines** is a fraction of the cocoa bean which is produced as a by-product during winnowing and degerming. It consists of a mixture of finely divided nib, shell and germ.
- A1.3 **Cocoa mass (cocoa liquor)** is the product obtained by the mechanical disintegration of cocoa nib without removal or addition of any its constituents.
- A1.4 **Cocoa nib** is the product obtained from cocoa beans which have been cleaned and freed from shell and germs as thoroughly as it is technically possible.
- A1.5 **Cocoa press cake** is the product obtained by partial removal of fat from cocoa nib or cocoa mass by mechanical means.

A2. ESSENTIAL COMPOSITION AND QUALITY FACTORS (see also MS293*)

A2.1 Cocoa beans

A2.1.1 The minimum quality requirements for the manufacture of semi-processed and finished cocoa products, pressed cocoa butter and chocolate in terms of defective beans are as follows:

- (a) Mouldy beans Not more than 4% by count
- (b) Slaty beans Not more than 8% by count
- (c) Insect damaged beans Not more than 5% by total count or germinated beans

A2.1.2 The moisture content of cocoa beans shall not exceed 7.5%.

A2.2 Cocoa nib, cocoa mass, cocoa press cake

A2.2.1 The minimum quality requirements of A2.2 are expressed as follows:-

- (a) Cocoa shell : Not more than 4% calculated on the fat-free dry matter

*MS 293, 'Specification for grading of Malaysian cocoa beans (second revision)'.

Appendix B Guide to storage

The optimal conditions for storage are :

- (a) A low relative humidity of the surrounding air, if possible under 65%
- (b) A temperature not exceeding 20° C and preferably between 15° C and 18° C, fluctuations in temperature should be avoided.
- (c) Clean, well-lit rooms, free of insects, rodents and other vermin.
- (d) Absence of strong-smelling foreign odours.
- (e) Stack at an adequate distance from both walls and floor.

Table 2. Analytical Characteristic of Malaysian cocoa butter

Item No.	Categories	Refractive Index (nD) (40 °C)	Melting Behaviour (Fincke) (i) slip point (ii) Clear melting Point	Free fatty acids % oleic acid	Saponification value (mg KOH/g)	Iodine value (Wijs)	Unsaponifiable matter (Petroleum ether) % w/w, max	Blue value Max
1	Pure prime pressed cocoa	1.456 to 1.459	(i) 31 °C to 34 °C (ii) 32 °C to 35 °C	0.5 to 1.75	188 to 198	32 to 38	0.6	0.05
2	Refined pure prime-pressed cocoa butter	1.456 to 1.459	(i) 31 °C to 34 °C (ii) 32 °C to 35 °C	0.5 to 1.75	188 to 198			