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Cocoa powder

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Foreword

This standard is formulated on the basis of years of implementation of SB/T 10209-1994 “Cocoa Powder”, and with reference to relevant content of Codex Stan 105-1981, Rev.1-2001 “*Standard for Cocoa Powders (Cocoas) and Dry Cocoa - sugar Mixtures*” formulated by Codex Alimentarius Commission and in combination of present situation of cocoa powder production in China.

Appendix A of this standard is normative.

This standard was proposed by China Business Federation.

This standard shall be centralized by China Business Federation.

This standard is drafted by: China Business Federation Business Standard Center, China Association of Bakery & Confectionery Industry Cocoa Specialized Committee, China National Research Institute of Food & Fermentation Industries, Chinatea, Shanghai Daming Cocoa Products Co., Ltd., Shanghai Tiangong Cocoa Foods Co., Ltd., Shanghai Fengyuan Cocoa Foods Co., Ltd., Shanghai Tiantan International Trading Co., Ltd., Shanghai Shenfeng Food Co., Ltd., Shanghai Ghana Cocoa Foods Co., Ltd., Wuxi Huadong Cocoa Foods Co., Ltd., Shanghai Golden Monkey Group Wuxi Cocoa Products Co., Ltd., Shaoxing Qili Xingguang Cocoa Products Co., Ltd., and Aifen Food (Beijing) Co., Ltd.

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Cocoa Powder

1 Scope

This standard specified the product classification, technical requirements, test methods, inspection rules and labeling requirements of cocoa powder.

This standard applies to the production, sales and monitoring supervision of cocoa powder.

2 Normative References

The articles contained in the following documents have become part of this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this standard. For the undated documents so quoted, the latest editions shall be applicable to this standard.

GB/T 4789.2 Microbiological examination of food hygiene - Aerobic plate count

GB/T 4789.3 Microbiological examination of food hygiene - Enumeration of coliforms

GB/T 4789.4 Microbiological examination of food hygiene - Examination of Salmonella

GB/T 4789.5 Microbiological examination of food hygiene - Examination of shigella

GB/T 4789.10 Microbiological examination of food hygiene - Detection of staphylococcus aureus

GB/T 4789.15 Microbiological examination of food hygiene - Examination of molds and yeasts

GB/T 5009.3 Determination of moisture in foods

GB/T 5009.4 Determination of ash in foods

GB/T 5009.11 Determination of total arsenic and abio-arsenic in food

GB/T 5512 Inspection of grain and oilseeds - Methods for determination of crude fat

Weigh 2g of sample; evenly place in the center of one organic glass; cover with another organic glass; press firmly and place it on the workbench. Observe the color of the sample with the naked eye; make a record of the color.

6.3 Liquor Color and Smell

6.3.1 Instruments

- a) Balance: sensitivity is $\pm 0.1\text{g}$.
- b). Aluminum specimen box: $\Phi 5.8\text{cm}$, height: 2.5cm;
- c) Meter beaker in tall form: 200ml;
- d) Glass rod;
- e) Glass ware: $\Phi 8\text{cm}$.

6.3.2 Analysis Steps

Weigh 8 g of sample, 15 g of white granulated sugar or soft sugar; place in meter beaker in tall form. Firstly heat a little distilled water to 70°C ; pour it slowly into the beaker; stir with glass rod into paste; then pour in hot distilled water to 200 mL; mix it into brewing solution. Cover with glass ware for 2 min~3 min; then open it to examine the smell and liquor color; make a record.

6.4 Cocoa fat

6.4.1 Soxhlet Extractor Method (arbitration method)

Measure according to the method stipulated in GB/T 5512.

6.4.2 Refractive Index Method (quick method)

Measure according to the method stipulated in Appendix A.

6.5 Moisture

Measure according to the method stipulated in GB/T 5009.3.

6.6 Ash Content

Measure according to the method stipulated in GB/T 5009.4.

6.7 Fineness

6.7.1 Reagent

Petroleum ether: analytically pure, boiling range: $60^{\circ}\text{C}\sim 90^{\circ}\text{C}$.

- d) Sterilized knife or scissor;
- e) 70%~75% ethanol cotton ball.

6.1.2 Sampling Quantity

The samples are randomly selected; and the sampling quantity shall be computed according to formula (1):

$$A = \sqrt{\frac{B}{3}} \quad \text{..... (1)}$$

Where:

A — quantity of samples required;

B — total quantity of products to be detected.

The number shall be rounded to integer when computing A; the fractional part shall be rounded upward. The sampling volume shall not be less than 500g.

6.1.3 Analysis Steps

Use scissors to cut the stitches and edge of sample package; use stainless steel spoon to pick up the sample from each package; place into the frosted wide-mouth bottle and plastic bag; close the bottle cap and plastic bag tightly. Fully mix the sample in the plastic bag; divide it into two parts: one for physiochemical inspection, one for sample reservation of shelf life. The sample in the frosted wide-mouth bottle shall be sent to sterile test laboratory for microbiological inspection. Label the sample; indicate the name, specification, batch number, quantity and production date.

For microbiological inspection, special refrigerator shall be used for storing sample. General positive samples can only be dealt with 3 days after the report is issued (for special case, it may extend appropriately); imported positive samples can only be dealt with after storing for six month; the negative samples can be dealt with timely.

Sampling personnel shall wear clean working garment, hat and mask. Before sampling, use 70%~75% ethanol cotton ball to wash their hands and tools.

6.2 Powder Color

6.2.1 Instruments

- a) Balance: sensitivity is $\pm 0.1\text{g}$
- b) White organic glass: 2 pieces, with the specification of $10\text{cm} \times 10\text{cm} \times 0.4\text{cm}$.

6.2.2 Analysis Steps

6.8.5 Tolerance

The difference between two measured pH values of one sample shall not exceed 0.1.

6.9 Total arsenic

Measure according to the method stipulated in GB/T 5009.11.

6.10 Total bacterial count

Carry out inspection according to the method in GB/T 4789.2.

6.11 Escherichia coli

Carry out inspection according to the method in GB/T 4789.3.

6.12 Yeast and mold

Carry out inspection according to the method in GB/T 4789.15.

6.13 Pathogenic bacteria

Carry out inspection according to the methods in GB/T 4789.4, GB/T 4789.5 and GB/T 4789.10.

7 Inspection Rules

7.1 Exit-factory inspection shall be carried out by the quality inspection department before product delivery. The exit-factory items include sensory, physiochemical, total bacterial count, escherichia coli, yeast and mold.

7.2 Type inspection shall be carried out once every half year. The items in type inspection include all items stipulated in this standard. Type inspection shall be carried out if any following situation occurs:

- The raw material is changed;
- The process is changed;
- The production is resumed after long-time shutdown;
- Significant difference exists between the exit-factory inspection result and last type inspection result;
- National quality supervision institution puts forward the requirement for type inspection.

7.3 The products with the same-formula and same-batch are deemed as one inspection

Appendix A

(Normative)

Measurement of Cocoa fat Content (Refractive Index Method)

A.1 Reagent

- a) α -bromonaphthalene: chemically pure;
- b) Silica sand: chemically pure;
- c) Anhydrous ethanol: analytically pure.

A.2 Instruments

- a) Analytical balance: sensitivity is $\pm 0.0001\text{g}$.
- b) Abbe refractometer;
- c) Ultra thermostat;
- d) Pipette: 5 mL;
- e) Glass mortar: 7.5 cm;
- f) Qualitative filter paper: 5.3 cm long, 4 cm wide;
- g) Absorbent cotton.

A.3 Analysis Steps

Fold the qualitative filter paper into rectangle slot with the length of 2.5 cm, width of 1.2 cm and height of 1.4 cm; put the absorbent cotton ball in the anhydrous ethanol; use rubber tube to connect the ultra thermostat to the water outlet of the Abbe refractometer; use pure water to adjust the Abbe refractometer; adjust the water temperature to 40°C.

Weigh 2 g of sample (accurate to 0.0001 g); accurately draw 3 mL of α -bromonaphthalene; place it in the dry and clean mortar; carefully grind it for 3 min to 5 min. Add 3 g of silica sand and grind it into paste. Use diethyl ether cotton ball to clean the prism of Abbe refractometer; pour the mixture into the filter paper that is folded to rectangle slot; filter it for 2 min to 3 min in the prism. Take out the filter paper; turn off the prism. When the prism temperature becomes stable at 40°C, measure the refractive index. The fat content of the sample can be found in Table A.1 according to the difference between the refractive index of α -bromonaphthalene and the index of α -bromonaphthalene sample mixture. The tolerance between two tests shall not exceed ± 0.0001 of the refractive index. Take the

Bibliography

- [1] "Product Marking Regulations" - Former General Administration of Quality and Technical Supervision Supervision-Issue [1997] No.172

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