CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

Food and Agriculture Organization of the United Nations
World Health Organization

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STANDARD FOR INSTANT NOODLES

CXS 249-2006

Adopted in 2006. Amended in 2016, 2018, 2019.

1. SCOPE

The standard shall apply to various kinds of noodles. The instant noodle may be packed with noodle seasonings, or in the form of seasoned noodle and with or without noodle garnish(s) in separate pouches, or sprayed on noodle and ready for consumption after dehydration process. This standard does not apply to pasta.

2. DESCRIPTION

Instant Noodle is a product prepared from wheat flour and/or rice flour and/or other flours and/or starches as the main ingredient, with or without the addition of other ingredients. It may be treated by alkaline agents. It is characterized by the use of pre-gelatinization process and dehydration either by frying or by other methods. The product should be presented as one of the following styles:

2.1 Fried noodles, or

2.2 Non-fried noodles

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Composition

3.1.1 *Essential Ingredients*

(a) Wheat Flour and/or Rice Flour and/or other flours and/or starches;

(b) Water.

3.1.2 *Optional Ingredients*

The optional ingredients shall be ingredient(s) which are commonly used.

3.2 Quality Criteria

3.2.1 *Organoleptic*

Shall be acceptable in term of appearance, texture, aroma, taste and colour.

3.2.2 *Foreign Matter*

The product shall be free from foreign matter.

3.2.3 *Analytical Requirement for Noodle Block (Noodle Excluding Seasonings)*

(a) Moisture Content

- Maximum of 10% for fried noodles
- Maximum of 14% for non-fried noodles

(b) Acid value: maximum of 2 mg KOH/g oil (applicable only to fried noodles)

4. FOOD ADDITIVES

Acidity regulators, anticaking agents, antioxidants, colours, emulsifiers, flour treatment agents, humectants, preservatives, stabilizers used in accordance with Tables 1 and 2 of the *General Standard for Food Additives* (CXS 192-1995) in food category 06.4.3 (Pre-cooked pastas and noodles and like products) and only certain Table 3 acidity regulators, antioxidants, colours, emulsifiers, flavour enhancers, humectants, stabilizers, and thickeners as indicated in Table 3 of the *General Standard for Food Additives* (CXS 192-1995) are acceptable for use in foods conforming to this Standard.

5. CONTAMINANTS

The products covered by this Standard shall comply with the Maximum Levels of the *General Standard for Contaminants and Toxins in Foods and Feed* (CXS 193-1995).

6. CONTAINERS OR PACKING CONDITION

Instant noodles shall be packaged in containers which will safeguard the hygienic, nutritional, technological and organoleptic qualities of the product.

The containers, including the packaging materials, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substances or undesirable odour or flavour to the

product.

7. FOOD HYGIENE

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the *General Principle of Food Hygiene* (CXC 1-1969) and other relevant Codex texts such as codes of hygienic practice and codes of practice.

The products should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria for Foods* (CXG 21-1997).

8. LABELLING

The product covered by this Standard shall be labelled in accordance with the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985).

8.1 Name of the Food

The name of the food shall be “Instant Noodle(s)”, or optionally as “Fried Noodle(s)” or “Non-fried Noodle(s)” in accordance to Subsections 2.1 and 2.2. Other names may be used if allowed by national legislation.

8.2 Labelling for “Halal”

Claim on “Halal” Instant Noodles shall follow the appropriate section of the *General Guidelines for Use of The Term “Halal”* (CXG 24-1997)

9. METHODS OF ANALYSIS AND SAMPLING

9.1 Sampling

Sampling shall follow the *General Guidelines on Sampling* (CXG 50-2004).

9.2 Determination of Moisture

9.2.1 *Apparatus*

(a) Aluminum dish: diameter ≥55mm, height ≥ 15mm, and with inverted tight-fitting lid.

(b) Air-oven: with control accuracy ±1 °C.

(c) Air-tight desiccator: silica gel heated at 150 °C is satisfactory drying agent.

9.2.2 *Preparation of Test Sample*

Remove instant noodles from package, and leave garnishing and seasoning in package. Transfer the noodles to plastic bag to prevent moisture change, and then break these into small fragments with hands or wooden hammer. Select broken noodles in the size range of 2.36 mm to 1.7 mm by using two sieves with 2.36 mm and 1.7 mm openings (mesh size 12-8), and mix well. Use these noodles for test sample. If noodles are too thin to screen with sieves, cut them into 1 to 2 cm lengths, mix well, and use these cut noodles for test sample.

9.2.3 *Determination*

9.2.3.1 *Fried Noodles*

In cooled and weighed dish (with lid), previously heated to 105°C, weigh ca 2 g well-mixed test portion to 1mg. Uncover test portion and dry dish, lid, and contents 2 h in oven provided with opening for ventilation and maintained at 105°C. (The 2 h drying period begins when oven temperature is actually 105 °C.) After drying period, cover dish while still in oven, transfer to desiccator, and weigh to 1 mg soon after reaching room temperature. Report loss in weight as moisture (indirect method).

9.2.3.2 *Non-fried Noodles*

For non-fried noodles, follow the directions for fried noodles, but dry test portion for 4 h.

9.2.4 *Calculation*

Calculate using the following equation:

Moisture (%) = {(g test portion before drying – g test portion after drying) / g test portion before drying}×100

9.3 Extraction of Oil from Instant Noodles

9.3.1 *Apparatus*

(a) Rotary evaporator

(b) Water bath

9.3.2 *Preparation of Test Sample*

Remove instant noodles from package, and leave garnishing and seasoning in package. Transfer the noodles to plastic bag to prevent moisture change, and then break these into small fragments with hands or wooden hammer. Select broken noodles in the size range of 2.36 mm to 1.7 mm by using two sieves with 2.36 mm and 1.7 mm openings, and mix well. Use these noodles for the test sample. If the noodles are too thin to screen with sieves, cut them into 1 to 2 cm lengths, mix well, and use these cut noodles for the test sample.

9.3.3 *Extraction*

Weigh 25 g test portion into 200 mL Erlenmeyer flask. Add 100 mL petroleum ether to the flask after replacing air in flask by N2 gas. Stopper flask and leave for 2 hours. Decant supernatant through filter paper into separating funnel. Add 50 mL petroleum ether to residue and filtrate supernatant through filter paper into the separating funnel. Add 75 mL water to the separating funnel and shake well. Allow layers to separate and drain the lower aqueous layer. Add water, shake, and remove aqueous layer again as done previously. Decant the petroleum ether layer after dehydration with Na2SO4 into pear-shaped flask. Evaporate petroleum ether in the flask on rotary evaporator at not over 40°C. Spray N2 gas on extract in the flask to remove all petroleum ether.

9.4 Determination of Acid Value

9.4.1 *Definition and Principle*

Acid value of oil from fried instant noodles = mg KOH required to neutralize 1 g oil. Oil extracted from noodle is dissolved in alcohol-ether mixture and titrated with alcoholic KOH standard solution.

9.4.2 *Apparatus*

Air-tight desiccator: silica gel heated at 150°C is satisfactory drying agent.

9.4.3 *Reagents*

(a) Alcoholic potassium hydroxide standard solution: 0.05 mol/L. Dissolve 3.5 g potassium hydroxide in equal volume of water (CO2-free) and add ethanol (95%) to 1 L. After mixing, let solution stand for several days keeping the solution CO2-free. Use supernatant after standardization.

Standardization:

Weigh required quantity of amidosulfuric acid (certified reference material for volumetric analysis) and place it into desiccator (<2.0 kPa) for 48 hour. Next, accurately weigh 1 to 1.25 g (recording the weight to 0.1mg), dissolve in water (CO2-free), and dilute to 250 mL. Put 25 mL solution into Erlenmeyer flask, add 2 to 3 drops of bromothymol blue indicator and titrate with 0.05 mol/L alcoholic potassium hydroxide solution until colour of solution change to faint blue.

Calculation:

Factor of molarity = (g amidosulfuric acid × purity × 25) / 1.2136 / mL KOH

(b) Alcohol-ether mixture: equal volumes ethanol (99.5%) and ether.

(c) Phenolphthalein solution: 1% in alcohol.

9.4.4 *Titration*

Before sampling, liquefy extracted oil using water bath. Weigh 1 to 2 g liquefied test portion into Erlenmeyer flask. Add 80 mL alcohol-ether mixture and a few drops of phenolphthalein solution. Titrate with 0.05 mol/L alcoholic KOH until faint pink colour appears and retain for more than 30 s. Perform blank test using only alcohol-ether mixture and phenolphthalein solution.

9.4.5 *Calculation*

Calculate using following equation:

Acid value [mg/g] = (mL test portion – mL blank) × factor of molarity × 2.806 / g test portion