CODEX STANDARD FOR NAMED ANIMAL FATS

CODEX-STAN 211 - 1999

The Appendix to this Standard is intended for voluntary application by commercial partners and not for application by governments.

1. SCOPE

This Standard applies to the animal fats described in Section 2 presented in a state for human consumption.

2. DESCRIPTION

2.1 Lard

2.1.1 ***Pure rendered lard*** is the fat rendered from fresh, clean, sound fatty tissues from swine (*Sus scrofa*) in good health, at the time of slaughter, and fit for human consumption. The tissues do not include bones, detached skin, head skin, ears, tails, organs, windpipes, large blood vessels, scrap fat, skimmings, settlings, pressings, and the like, and are reasonably free from muscle tissues and blood.

2.1.2 ***Lard subject to processing*** may contain refined lard, lard stearin and hydrogenated lard, or be subject to processes of modification provided that it is clearly labelled.

2.2 Rendered pork fat

2.2.1 ***Rendered pork fat*** is the fat rendered from the tissues and bones of swine (*Sus scrofa*) in good health, at the time of slaughter, and fit for human consumption. It may contain fat from bones (properly cleaned), from detached skin, from head skin, from ears, from tails and from other issues fit for human consumption.

2.2.2 ***Rendered pork fat subject to processing*** may also contain refined lard, refined rendered pork fat, hydrogenated lard, hydrogenated rendered pork fat, lard stearin and rendered pork fat stearin provided that it is clearly labelled.

2.3 Premier jus (oleo stock) is the product obtained by rendering at low heat the fresh fat (killing fat) of heart, caul, kidney and mesentery collected at the time of slaughter of bovine animals in good health at the time of slaughter and fit for human consumption, as well as cutting fats.

2.4 Edible tallow

2.4.1 ***Edible tallow (dripping)*** is the product obtained by rendering the clean, sound, fatty tissues (including trimming and cutting fats), attendant muscles and bones of bovine animals and/or sheep (*Ovis aries*) in good health at the time of slaughter and fit for human consumption.

2.4.2 ***Edible tallow subject to processing*** may contain refined edible tallow, provided that it is clearly labelled.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

GLC ranges of fatty acid composition (expressed as percentages)

Samples falling within the appropriate ranges specified below are in compliance with this Standard.

	Lard Rendered pork fat	Premier jus Tallow
C6:0	)	)
C8:0	)	)
C10:0	) < 0.5 in total	) < 0.5 in total
C12:0	)	)
C14:0	1.0-2.5	2-6
C14:ISO	< 0.1	< 0.3
C14:1	< 0.2	0.5-1.5
C15:0	< 0.2	0.2-1.0
C15:ISO	< 0.1	) < 1.5 in total
C15:ANTI ISO	< 0.1	)
C16:0	20-30	20-30
C16:1	2.0-4.0	1-5
C16:ISO	< 0.1	< 0.5
C16:2	< 0.1	< 1.0
C17:0	< 1	0.5-2.0
C17:1	< 1	< 1.0
C17:ISO	< 0.1	) < 1.5 in total
C17:ANTI ISO	< 0.1	)
C18:0	8-22	15-30
C18:1	35-55	30-45
C18:2	4-12	1-6
C18:3	< 1.5	< 1.5
C20:0	< 1.0	< 0.5
C20:1	< 1.5	< 0.5
C20:2	< 1.0	< 0.1
C20:4	< 1.0	< 0.5
C22:0	< 0.1	< 0.1
C22:1	< 0.5	not detected

4. FOOD ADDITIVES

4.1 Colours

The following colours are permitted for the purpose of restoring natural colour lost in processing or for the purpose of standardizing colour, as long as the added colour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value:

		Maximum Level
100	Curcumin or Turmeric	5 mg/kg (calculated as total curcumin)
160a	Beta-carotene	25 mg/kg
160b	Annatto extracts	10 mg/kg (calculated as total bixin or norbixin)

4.2 Antioxidants

304	Ascorbyl palmitate	)	500 mg/kg individually or in combination
305	Ascorbyl stearate	)	
306	Mixed tocopherols concentrate		GMP
307	Alpha-tocopherol		GMP
308	Synthetic gamma-tocopherol		GMP
309	Synthetic delta-tocopherol		GMP
310	Propyl gallate		100 mg/kg
319	Tertiary butyl hydroquinone (TBHQ)		120 mg/kg
320	Butylated hydroxyanisole (BHA)		175 mg/kg
321	Butylated hydroxytoluene (BHT)		75 mg/kg
	Any combination of gallates, BHA and BHT and/or TBHQ		200 mg/kg but limits above not to be exceeded

4.3 Antioxidant synergists

330	Citric acid		GMP
331	Sodium citrates		GMP
384	Isopropyl citrates	)	100 mg/kg individually or in combination
	Monoglyceride citrate	)	

5. CONTAMINANTS

5.1 Heavy metals

The products covered by the provisions of this Standard shall comply with maximum limits being established by the Codex Alimentarius Commission, but in the meantime the following limits will apply:

	Maximum permissible concentration
Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

5.2 Pesticide residues

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

6. HYGIENE

6.1 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 Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1 - 1969, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

7. LABELLING

7.1 Name of the food

The product shall be labelled in accordance with the Codex General Standard for the Labelling of Pre-packaged Foods (Ref. CODEX STAN 1-1985, Rev. 1-1991; Codex Alimentarius, Volume 1A). The name of the fat shall conform to the descriptions given in Section 2 of this Standard.

7.2 Labelling on non-retail containers

Information on the above labelling requirements shall be given either on the container or in accompanying documents, except that the name of the food, lot identification and the name and address of the manufacturer or packer shall appear on the container.

However, lot identification and 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 documents.

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Determination of GLC ranges of fatty acid composition

According to IUPAC 2.301, 2.302 and 2.304 or ISO 5508: 1995/ 5509: 1999.

8.2 Determination of arsenic

According to AOAC 952.13, IUPAC 3.136, AOAC 942.17, or AOAC 985.16.

8.3 Determination of lead

According to IUPAC 2.632, AOAC 994.02 or ISO 12193: 1994.

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

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1. QUALITY CHARACTERISTICS

1.1 Colour:

Rendered pork fat:	White when solid
Lard	White to cream
Premier jus:	Creamy white to pale yellow
Edible tallow:	Off white to pale yellow

1.2 Odour and taste:

Characteristic and free from foreign and rancid odour and taste.

	Maximum level
1.3 Matter volatile at 105°C:	0.3 %
1.4 Insoluble impurities:	0.05 %

1.5 Sodium soap content:

lard	nil
premier jus	nil
rendered pork fat	0.005 %
edible tallow	0.005 %

1.6 Iron (Fe): 1.5 mg/kg

1.7 Copper (Cu): 0.4 mg/kg

1.8 Acid value:

lard	1.3 mg KOH/g fat = ffa max 0.65 %
premier jus	2.0 mg KOH/g fat = ffa max 1.00 %
rendered pork fat	2.5 mg KOH/g fat = ffa max 1.25 %
edible tallow	2.5 mg KOH/g fat = ffa max 1.25 %

1.9 Peroxide value: up to 10 milliequivalents active oxygen/kg fat

2. CHEMICAL AND PHYSICAL CHARACTERISTICS

	Lard	Rendered pork fat	Premier jus	Tallow
2.1 Relative density (40ºC/water at 20ºC)	0.896-0.904	0.894-0.906	0.893-0.904	0.894-0.904
2.2 Refractive index (N D 40ºC)	1.448-1.460	1.448-1.461	1.448-1.460	1.448-1.460
2.3 Titre (°C)	32-45	32-45	42.5-47	40-49
2.4 Saponification value (mg KOH/g fat)	192-203	192-203	190-200	190-202
2.5 Iodine value (Wijs)	55-65	60-72	36-47	40-53
2.6 Unsaponifiable matter (g/kg)	≤ 10	≤ 12	≤ 10	≤ 12

3. METHODS OF ANALYSIS AND SAMPLING

3.1 Determination of matter volatile at 105°C

According to IUPAC 2.601 or ISO 662: 1998.

3.2 Determination of insoluble impurities

According to IUPAC 2.604 or ISO 663: 1999.

3.3 Determination of soap content

According to BS 684 Section 2.5.

3.4 Determination of copper and iron

According to ISO 8294: 1994, IUPAC 2.631 or AOAC 990.05.

3.5 Determination of relative density

According to IUPAC 2.101, with the appropriate conversion factor.

3.6 Determination of refractive index

According to IUPAC 2.102 or ISO 6320: 1995.

3.7 Determination of saponification value (SV)

According to IUPAC 2.202 or ISO 3657: 1988.

3.8 Determination of iodine value (IV)

Wijs-according to IUPAC 2.205/1, ISO 3961: 1996, AOAC 993.20, or AOCS Cd 1d-1992 (97).

3.9 Determination of unsaponifiable matter

According to IUPAC 2.401 (part 1-5) or ISO 3596-1: 1988 and Amendment 1 1997, and ISO 3596-2: 1988 and Amendment 1 1999.

3.10 Determination of peroxide value (PV)

According to IUPAC 2.501 (as amended), AOCS Cd 8b-90 (97) or ISO 3960: 1998.

3.11 Determination of acidity

According to IUPAC 2.201 or ISO 660: 1996.

3.12 Determination of titre

According to ISO 935: 1988, or IUPAC 2.121.