

# CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture  
Organization of  
the United Nations



World Health  
Organization

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## STANDARD FOR NAMED ANIMAL FATS

CXS 211 -1999

Adopted in 1999. Amended in 2009, 2013 and 2015, 2019.

## 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

**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.

**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

**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.

**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

**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.

**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	< 0.5 in total	< 0.5 in total
C8:0		
C10:0		
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:

INS No.	Additive	Maximum Use Level
100(i)	Curcumin	5 mg/kg
160a(ii)	<i>beta</i> -Carotenes (vegetable)	25 mg/kg
160a(i)	<i>beta</i> -Carotenes (synthetic)	25 mg/kg (Singly or in combination)
160a(iii)	<i>beta</i> -Carotenes ( <i>Blakeslea trispora</i> )	
160e	<i>beta</i> -apo-8'-Carotenal	
160f	<i>beta</i> -apo-8'-Carotenoic acid, methyl or ethyl ester	
160b(i)	Annatto extracts, bixin-based	10 mg/kg (as bixin)

**4.2 Antioxidants**

INS No.	Additive	Maximum Use Level
304	Ascorbyl palmitate	500 mg/kg (Singly or in combination )
305	Ascorbyl stearate	
307a	Tocopherol, d- <i>alpha</i> -	300 mg/kg (Singly or in combination)
307b	Tocopherol concentrate, mixed	
307c	Tocopherol, dl- <i>alpha</i>	
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, BHT, or TBHQ		200 mg/kg but limits above not to be exceeded
322(i)	Lecithin	GMP

**4.3 Antioxidant synergists**

INS No.	Additive	Maximum Use Level
330	Citric acid	GMP
331(i)	Sodium dihydrogen citrate	GMP
331(iii)	Trisodium citrate	GMP
384	Isopropyl citrates	100 mg/kg (Singly or in combination)
472c	Citric and fatty acid esters of glycerol	

**4.4 Antifoaming agents** (for oils and fats for deep frying)

INS No.	Additive	Maximum Use Level
471	Mono- and di-glycerides of fatty acids	GMP

**5. CONTAMINANTS**

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

**5.1 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**

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 Principles 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 related to Foods* (CXG 21-1997).

**7. LABELLING****7.1 Name of the food**

The product shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CXS 1-1985). 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.

**APPENDIX****OTHER QUALITY AND COMPOSITION FACTORS**

These quality and composition factors are supplementary information to the essential composition and quality factors of the standard. A product, which meets the essential quality and composition factors but does not meet these supplementary factors, may still conform to the standard.

**1. QUALITY CHARACTERISTICS****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

**Odour and taste:**

Characteristic and free from foreign and rancid odour and taste.

Maximum level

<b>Matter volatile at 105°C:</b>	0.3 %
<b>Insoluble impurities:</b>	0.05 %
<b>Sodium soap content:</b>	
lard	nil
premier jus	nil
rendered pork fat	0.005 %
edible tallow	0.005 %
<b>Iron (Fe):</b>	1.5 mg/kg
<b>Copper (Cu):</b>	0.4 mg/kg
<b>Acid value:</b>	
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 %
<b>Peroxide value:</b>	up to 10 milliequivalents active oxygen/kg fat

**2. CHEMICAL AND PHYSICAL CHARACTERISTICS**

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

**3. METHODS OF ANALYSIS AND SAMPLING****Determination of matter volatile at 105°C**

According to IUPAC 2.601 or ISO 662: 1998.

**Determination of insoluble impurities**

According to IUPAC 2.604 or ISO 663: 1999.

**Determination of soap content**

According to BS 684 Section 2.5.

**Determination of copper and iron**

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

**Determination of relative density**

According to IUPAC 2.101, with the appropriate conversion factor.

**Determination of refractive index**

According to IUPAC 2.102 or ISO 6320: 1995.

**Determination of saponification value (SV)**

According to IUPAC 2.202 or ISO 3657: 1988.

**Determination of iodine value (IV)**

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

**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.

**Determination of peroxide value (PV)**

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

**Determination of acidity**

According to IUPAC 2.201 or ISO 660: 1996.

**Determination of titre**

According to ISO 935: 1988, or IUPAC 2.121.