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## China, Peoples Republic of

### FAIRS Product Specific

## GB1536 National Standard for Rapeseed Oil SPS/N/CHN/43 and TBT/N/CHN/35

### 2004

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**Report Highlights:**

This report contains an UNOFFICIAL translation of China's WTO notified National Standard for Rapeseed Oil (GB1536). The comment period for this Standard, notified by both the SPS (CHN/43) and TBT (CHN/35) offices in 2003 expired. The Standard will enter into force on February 1, 2005.

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Includes PSD Changes: No  
Includes Trade Matrix: No  
Unscheduled Report  
Beijing [CH1]  
[CH]

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**Background**

China's WTO notification and enquiry offices for SPS and TBT affairs both notified the same version of the DRAFT Hygienic Standards for Rapeseed Oil (GB1536) in late 2003. The General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) and the Standardization Administration of China (SAC) published a FINAL version of this Standard on August 13, 2004 that is scheduled to enter into force on February 1, 2005.

BEGIN TRANSLATION

**National Standard for Rapeseed Oil (GB1536-2004)****Preamble**

**Part of the indicators of the standard in Table 1 and Table 2 of Clauses 5.2 and 5.4 of Chapter 7 and Chapter 8 are mandatory while the others are encouraged.**

The standard is a revision of GB 1536-1986 "Rapeseed Oil".

The main technical differences between this standard and GB 1536-1986 are as follows:

-The structure, technical elements and formulation rules are modified according to GB/T 1.1-2000 "Standardized Working Guide Rules, Part 1: Structure and Writing Rules of Standards";

-Classification and grading are made according to raw materials and processing of rapeseed oil;

-The characteristic indexes and quality indexes in the above Standard have been adjusted;

-Related quality indexes have been revised;

-The definition and content of low-erucic acid are determined in accordance with relevant standards regarding 'double low' rapeseed oil.

Related indexes are modified with reference to International Codex Alimentarius.

The standard shall replace GB 1536-1986 "Rapeseed Oil" and come to effect on the date of its execution.

The standard is put forward and managed by the State Grain Administration.

The standard is drafted by the Standard Quality Center of State Grain Administration and Xi'an Grease, Food And Fodder Quality Supervision, Inspection & Test Center of State Grain Administration; and participated by Shanghai Fulinmen Food Co. Ltd., Hubei Tianyi Science & Technology Co. Ltd. and Shenzhen Nanshun Oil & Grease Co. Ltd..

The standard is drafted by Tang Ruiming, Long Lingli, Xue Yalin, Chen Yan, Xu Xia, Hu Jing, Zhao Hongmei and Liu Zuomin.

## 1 Scope

The standard provides the terminologies and their definitions, classification, quality requirements of rapeseed oil, and the inspection method and rules, as well as the requirements of labeling, package, storage and transportation, etc.

The standard applies to pressed finished product rapeseed oil, solvent extraction finished product rapeseed oil and crude rapeseed oil.

The quality indexes of crude rapeseed oil are only applicable to the trade of crude rapeseed oil.

## 2 Reference Specifications

The clauses in the following documents are referenced in this standard and become the clauses of this standard. Any modification lists (except text corrections) or revisions of the referenced documents specified with date shall not apply to this standard. But, all parties of this standard shall decide whether the latest editions of the following standard are applicable or not. All the latest editions of the referenced documents without date indication are applicable to this standard.

GB 2716 Hygiene Standard for Edible Vegetable Oil

GB 2760 Hygiene Standard for Food Additives Use

GB/T 5009.37 Analytical method of hygienic standard for edible vegetable oil

GB/T 5490 General Inspection Rules for Cereals, Oils And Vegetable Grease

GB/T 5524 Method of sampling and sample splitting in vegetable fat and oil inspection

GB/T 5525-1985 Inspection Method of Transparency, Color, Odor and Taste of

Vegetable Grease

GB/T 5526 Specific gravity test method in vegetable fat and oil inspection

GB/T 5527 Method for the determination of refractive exponent in vegetable fat and oil inspection

GB/T 5528 Water content and volatile content test method of vegetable grease and oil

GB/T 5529 Method for the determination of impurities in vegetable fat and oil inspection

GB/T 5530 Acid Value and Acidity Test of Animal and Vegetable Grease and Oil

GB/T 5531 Heating test in vegetable fat and oil inspection

GB/T 5532 Determination of iodine value in vegetable oil

GB/T 5533 Method for the determination of saponified matter content in vegetable fat and oil inspection

GB/T 5534 Method for the determination of of saponification value in animal and vegetable grease and oil

GB/T 5535 Method for the determination of unsaponifiable matter in vegetable fat and oil inspection

GB/T 5538 Peroxide test of grease

GB/T 5539 Oil and fat qualitative test in vegetable fat and oil inspection

GB 7718 General Standard of Foodstuff Labels

GB/T 17374 Sales package of edible vegetable oil

GB/T 17376 Fatty acid methyl ester preparation of animal and vegetable grease and oil

GB/T 17377 Gas Chromatographic Analysis of Fatty Acid Methyl Ester of Animal and

Vegetable Grease and Oil

GB/T 17756-1999 General Technical Specifications for Salad Oil

### 3 Terminology and Definitions

The following terminologies and definitions are applicable to this standard.

#### 3.1 **pressing rapeseed oil**

Oil obtained from rapeseed by direct pressing.

#### 3.2 **solvent extraction rapeseed oil**

Oil obtained from rapeseed by solvent extraction process.

#### 3.3 **genetically modified rapeseed oil**

Oil made from genetically modified rapeseed.

#### 3.4 **rapeseed oil- low erucic acid**

Rapeseed oil with the erucic acid content in the composition of fatty acid no greater than 3%.

#### 3.5 **crude rapeseed oil**

Rapeseed oil without any treatment and not directly edible by human beings.

#### 3.6 **finished product of rapeseed oil**

Rapeseed oil following treatment and meeting the quality indexes of this standard and hygienic requirements for finished product oil for direct human consumption.

#### 3.7 **refractive index**

The sine ratio between incidence angle and refraction ray angle when light ray enters grease or oil from air.

#### 3.8 **specific gravity**

The weight ratio between vegetable oil and distilled water of the same volume at 20 degree Celsius.

#### 3.9 **iodine value**

The grammage of iodine necessary for addition reaction to take place in 100 grams of oil under rated conditions.

#### 3.10 **saponification value**

Number of milligrams of potassium hydroxide needed to saponify 1 gram of oil.

#### 3.11 **unsaponifiable matter**

Substances in oil that does not act with alkali and is dissolvable in aether but not dissolvable in water, including sterol, fat-soluble vitamin and pigment, etc..

#### 3.12 **fatty acid**

The generic term for fatty group monocarboxylic acid, with the general expression of R-COOH.

#### 3.13 **color**

Color of oil itself, mainly coming from the fat color in oil.

#### 3.14 **transparency**

The degree of ray of light to penetrate oil.

#### 3.15 **moisture and volatile matter**

Trace amount of moisture and volatile substances in oil at a certain temperature.

#### 3.16 **insoluble impurities**

Substances in oil not dissolvable in organic solvent such as petroleum ether etc..

#### 3.17 **acid value**

Number of milligrams of potassium hydroxide needed to neutralize the free fatty acid in 1 gram of oil.

#### 3.18 **peroxide value**

Number of millimoles of peroxide in 1 kilogram of oil.

**3.19 residual solvent content in oil**

Number of milligrams of solvent remaining in 1 kilogram of oil.

**3.20 heating test**

Heat the oil sample to 280 degree Celsius and observe if there is any educt and color change.

**3.21 refrigeration test**

Put the oil sample at 0 degree Celsius for a certain period of time and observe the clearness.

**3.22 saponified matter content**

Content of saponified matter in oil after alkali refining (calculated in sodium oleate).

**3.23 smoking point**

The temperature at which the oil sample is heated to start the continuous release of blue smoke.

**4 Classification**

Rapeseed oil is classified into three categories of pressed finished product rapeseed oil, solvent extraction finished product rapeseed oil and crude rapeseed oil.

**5 Quality Requirements****5.1 Characteristic index**

	Normal rapeseed oil	Low erucic acid Rapeseed oil
Refraction index (n <sup>40</sup> ):	1.465 ~ 1.469	1.465 ~ 1.467
Relative density (d):	0.910 ~ 0.920	0.914 ~ 0.920
Iodine value (gI/100g)	94 ~ 120	105 ~ 126
Saponification value (mgKOH/g):	168 ~ 181	182 ~ 193
Unsaponifiable matter (g/kg):	≤ 20	≤ 20
Fatty acid composition (%):		
Fatty acid below 14 carbon	ND	ND
Amomum acid C <sub>14:0</sub>	ND ~ 0.2	ND ~ 0.2
Palmitinic acid C <sub>16:0</sub>	1.5 ~ 6.0	2.5 ~ 7.0
Palm mono olefine acid C <sub>16:1</sub>	ND ~ 3.0	ND ~ 0.6
Heptadecanoic acid C <sub>17:0</sub>	ND ~ 0.1	ND ~ 0.3
17 carbon 1 olefine acid C <sub>17:1</sub>	ND ~ 0.1	ND ~ 0.3
Stearic acid C <sub>18:0</sub>	0.5 ~ 3.1	0.8 ~ 3.0
Oleic acid C <sub>18:1</sub>	8.0 ~ 60.0	51.0 ~ 70.0
Linoleic acid C <sub>18:2</sub>	11.0 ~ 23.0	15.0 ~ 30.0
Linolenic acid C <sub>18:3</sub>	5.0 ~ 13.0	5.0 ~ 14.0
Arachidic acid C <sub>20:0</sub>	ND ~ 3.0	0.2 ~ 1.2
Peanut mono olefine acid C <sub>20:1</sub>	3.0 ~ 15.0	0.1 ~ 4.3
Peanut diolefinic acid C <sub>20:2</sub>	ND ~ 1.0	ND ~ 0.1
Docosanoic acid C <sub>22:0</sub>	ND ~ 2.0	ND ~ 0.6
Erucic acid C <sub>22:1</sub>	2.0 ~ 60.0	ND ~ 2.0
Behenolic carbon diolefinic acid C <sub>22:2</sub>	ND ~ 2.0	ND ~ 0.1
Lignoceric acid C <sub>24:0</sub>	ND ~ 2.0	ND ~ 0.3
24 carbon 1 olefine acid C <sub>24:1</sub>	ND ~ 3.0	ND ~ 0.4

Note 1: The above indexes, except for erucic acid content, are consistent to those in International Codex Alimentarius Standard CODEX-STAN 210-1999 "Appointed Vegetable Oil Code Standard".

Note 2: ND means not detected and is defined as 0.05%.

## 5.2 Quality grade index

5.2.1 For crude rapeseed oil quality index, refer to Table 1.

**Table 1 Crude rapeseed oil quality index**

Items	Quality index
Odor, taste	Having the natural taste and odor of crude rapeseed oil, without offensive taste or odor
Moisture and volatile substance (%) ≤	0.20
Insoluble impurities (%) ≤	0.20
<b>Acid value (KOH)/ (mg/g) ≤</b>	<b>4.0</b>
<b>Peroxide value (mmol/kg) ≤</b>	<b>7.5</b>
<b>Solvent residue (mg/kg) ≤</b>	<b>100</b>
<b>Chlorophyll content (mg/kg) ≤</b>	<b>30</b>
Note: Bold face means mandatory.	

5.2.2 Refer to Table 2 for quality indexes of finished rapeseed oil by pressing and solvent extraction.

**Table 2 Quality Indexes for Finished Rapeseed Oil by Pressing and Solvent Extraction**

Items		Quality index			
		Grade 1	Grade 2	Grade 3	Grade 4
Color	(Lovibond Cell25.4mm) ≤	--	--	Yellow 35 red 4.0	<b>Yellow 35 red 7.0</b>
	(Lovibond Cell133.4mm) ≤	Yellow 20 red 2.0	Yellow 35 red 4.0	--	--
Odor, taste		No odor and good flavour	Good odor and good flavour	Having the natural taste and odor of rapeseed oil, without offensive taste or odor	<b>Having the natural taste and odor of rapeseed oil, without offensive taste or odor</b>
Transparency		Clear, transparent	Clear, transparent	--	--
Moisture and volatile substance (%) ≤		0.05	0.05	0.10	<b>0.20</b>
Insoluble impurities (%) ≤		0.05	0.05	0.05	<b>0.05</b>
<b>Acid value (KOH) (mg/g) ≤</b>		<b>0.20</b>	<b>0.30</b>	<b>1.0</b>	<b>3.0</b>
<b>Peroxide value (mmol/kg) ≤</b>		<b>5.0</b>	<b>5.0</b>	<b>6.0</b>	<b>6.0</b>
Heating test (280°C)		--	--	No eduction, Lovibond Cell: yellow value remains unchanged and red value added by less than 0.4	<b>Trace amount of eduction, Lovibond Cell: yellow value remains unchanged, while red value increases less than 4.0 and blue value less than 0.5</b>
Saponified matter content (%) ≤		--	--	0.03	--
Smoke point (degree Celsius) ≥		215	205	--	--
Freezing test (At 0 degree Celsius for 5.5 hours)		Clear, transparent	--	--	--
<b>Solvent residue (mg/kg)</b>	<b>Solvent extraction oil</b>	<b>ND</b>	<b>ND</b>	≤ 50	≤ 50
	<b>Pressing oil</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>

Note 1: The items marked "--" are not tested. When the solvent residue is less than 10mg/kg in pressing oil and solvent extraction oil of grade 1 and 2, it is deemed as not detected. Note 2: Bold face means compulsive.

### 5.3 Hygiene indexes

To be implemented according to GB 2716, GB 2760 and related national standards and regulations.

### 5.4 Others

Rapeseed oil shall not be mixed with other edible oil or inedible oil; and shall not be added with any essence or spice.



## 6 Inspection Method

- 6.1 The inspection of transparency, odor and flavor inspection shall be carried out according to Chapter 1 and chapter 3 of GB/T 5525-1985.
- 6.2 Color inspection shall be carried out according to Chapter 2 of GB/T 5525.
- 6.3 Relative density inspection shall be carried out according to GB/T 5526
- 6.4 Refractive exponent inspection shall be carried out according to GB/T 5527.
- 6.5 Moisture and volatile substance inspection shall be carried out according to GB/T 5528.
- 6.6 Insoluble impurities inspection shall be carried out according to GB/T 5529.
- 6.7 Acid value inspection shall be carried out according to GB/T 5530.
- 6.8 Heating test shall be carried out carried out according to GB/T 5531.
- 6.9 Iodine value inspection shall be carried out according to GB/T 5532.
- 6.10 Soap content inspection shall be carried out according to GB/T 5533.
- 6.11 Saponification value inspection shall be carried out according to GB/T 5534.
- 6.12 Unsaponifiable matter inspection shall be carried out according to GB/T 5535.
- 6.13 Peroxide value inspection shall be carried out according to GB/T 5538.
- 6.14 Freezing test shall be carried out according to Annex A to GB/T 17756-1999.
- 6.15 Smoke point inspection shall be carried out according to Annex B to GB/T 17756-1999.
- 6.16 Chlorophyll inspection shall be carried out according to GB/T \* \* execution.
- 6.17 Solvent residue inspection shall be carried out according to GB/T 5009.37.
- 6.18 Oil qualitative test shall be carried out according to GB/T 5539. The results of qualitative test and characteristic index (5.1) shall be deemed as comprehensive discrimination basis.
- 6.19 Fatty acid composition inspection shall be carried out according to GB/T 17376-17377.
- 6.20 Hygiene index inspection shall be carried out according to GB/T 5009.37.

## 7 Inspection Rules

### 7.1 Sampling

Rapeseed oil sampling method shall be carried out according to GB/T 5524.

### 7.2 Ex-work inspection

- 7.2.1 Inspection shall be made to each batch, and inspection report shall be produced.
- 7.2.2 Inspection shall be carried out according to the stipulations in 5.2 of this standard.

### 7.3 Type inspection

- 7.3.1 When there are major changes in raw materials, equipment or process, or as required by quality supervision authorities, type inspection shall be carried out.
- 7.3.2 Inspection shall be carried out according to the stipulations in Chapter 5 of this standard.

### 7.4 Judgment rules

- 7.4.1 If the product is not labeled for quality grade, it shall be rejected.
- 7.4.2 In case of failure in one of the grade indexes, the product shall be rejected.

**8 Label**

Apart from the stipulations and requirements of GB 7718, the following clauses shall be observed:

**8.1 Product name**

8.1.1 All products with the label of "rapeseed oil" shall comply with this standard.

8.1.2 Genetically modified rapeseed oil shall be marked according to relevant national regulations.

8.1.3 Pressing rapeseed oil and solvent extraction rapeseed oil shall be marked with "pressing" or "solvent extraction" in the product label.

**8.2 Country of origin**

Country name of the origin of raw materials shall be indicated.

**9 Package, Storage and Transportation****9.1 Package**

Package shall conform to GB/T 17374 and relevant national regulations and requirements.

**9.2 Storage**

The product shall be stored in a cool, dry and dark place. It shall not be stored together with any harmful or toxic articles.

**9.3 Transportation**

During transportation, it shall be protected from sunshine, rain, leakage, pollution and label missing. Bulk shipment shall be carried out by using special vehicle that must be clean and hygienic.

## Reference

[ 1 ] International Codex Alimentarius Standard CODEX-STAN 210-1999 "Appointed Vegetable Oil Code Standard"

END TRANSLATION

G/SPS/N/CHN/43

<b>WORLD TRADE ORGANIZATION</b> <b>Committee on Sanitary and Phytosanitary Measures</b>	<b>G/SPS/N/CHN/43</b> 23 December 2003 (03-6710) Original: English
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**NOTIFICATION**

<b>1. Member to Agreement notifying:</b> <u>THE PEOPLE'S REPUBLIC OF CHINA</u> <b>If applicable, name of local government involved:</b>
<b>2. Agency responsible:</b> Standardization Administration of China
<b>3. Products covered (provide tariff item number(s) as specified in national schedules deposited with the WTO; ICS numbers should be provided in addition, where applicable):</b> Rapeseed oil, ICS 67.200.10
<b>4. Regions or countries likely to be affected, to the extent relevant or practicable:</b> All countries and regions
<b>5. Title, language and number of pages of the notified document:</b> National Standard on Rapeseed oil (available in Chinese, 11 pages)
<b>6. Description of content:</b> This National Standard specifies requirements on definition, classification, technical requirements, test methods, inspection rules, labelling, package, storage, transportation etc., for rapeseed oil.
<b>7. Objective and rationale:</b> <input checked="" type="checkbox"/> food safety, <input type="checkbox"/> animal health, <input type="checkbox"/> plant protection, <input type="checkbox"/> protect humans from animal/plant pest or disease, <input type="checkbox"/> protect territory from other damage from pests
<b>8. International standard, guideline or recommendation:</b> <input type="checkbox"/> Codex Alimentarius Commission, <input type="checkbox"/> Office International des Epizooties, <input type="checkbox"/> International Plant Protection Convention, <input checked="" type="checkbox"/> None <b>If an international standard, guideline or recommendation exists, give the appropriate reference and briefly identify deviations:</b>
<b>9. Relevant documents and language(s) in which these are available:</b>
<b>10. Proposed date of adoption:</b> To be determined
<b>11. Proposed date of entry into force:</b> 6 months after adoption
<b>12. Final date for comments:</b> Sixty days after circulation by the Secretariat <b>Agency or authority designated to handle comments:</b> <input type="checkbox"/> National notification authority, <input checked="" type="checkbox"/> National enquiry point, or address, fax number and E-mail address (if available) of other body:
<b>13. Texts available from:</b> <input type="checkbox"/> National notification authority, <input checked="" type="checkbox"/> National enquiry point, or address, fax number and E-mail address (if available) of other body:

G/TBT/N/CHN/35

<b>WORLD TRADE ORGANIZATION</b> <b>Committee on Technical Barriers to Trade</b>	<b>G/TBT/N/CHN/35</b> 13 November 2003 (03-6097) Original: English
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**NOTIFICATION**

The following notification is being circulated in accordance with Article 10.6.

<b>1. Member to Agreement notifying:</b> <u>THE PEOPLE'S REPUBLIC OF CHINA</u> <b>If applicable, name of local government involved (Articles 3.2 and 7.2):</b>
<b>2. Agency responsible:</b> Standardization Administration of the People's Republic of China (SAC) <b>Name and address (including telephone and fax numbers, e-mail and web-site addresses, if available) of agency or authority designated to handle comments regarding the notification shall be indicated if different from above:</b>
<b>3. Notified under Article 2.9.2 [ X ], 2.10.1 [   ], 5.6.2 [   ], 5.7.1 [   ], other:</b>
<b>4. Products covered (HS or CCCN where applicable, otherwise national tariff heading. ICS numbers may be provided in addition, where applicable):</b> Rapeseed oil ICS 67.200.10
<b>5. Title, number of pages and language(s) of the notified document:</b> China National Standard GB 1536-2002 Rapeseed Oil ( 5 pages, in Chinese)
<b>6. Description of content:</b> This National Standard specifies requirements on definition, classification, technical requirements, test methods, inspection rules, labelling, package, storage, transportation etc., for rapeseed oil.
<b>7. Objective and rationale, including the nature of urgent problems where applicable:</b> For public health and safety
<b>8. Relevant documents:</b> None
<b>9. Proposed date of adoption:</b> } <b>Proposed date of entry into force:</b> } To be determined
<b>10. Final date for comments:</b> 60 days after the date of notification
<b>11. Texts available from: National enquiry point [ X ] or address, telephone and fax numbers, e-mail and web-site addresses, if available of the other body:</b>