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China Announces Revised Standards on Edible Vegetable Oil

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Report Highlights:

On September 4, 2015, China notified the WTO of the National Food Safety Standard on Edible Vegetable Oil (an update to GB 8955), issued by the National Health and Family Planning Commission (NHFPC), as SPS/N/CHN/997. The deadline for submission of final comments to China is November 3, 2015. This standard pertains to the processing of various edible vegetable oil and the production of various edible oil products based on the main materials of edible vegetable oil and fat. The proposed date of entry is yet to be determined. Comments can be sent to China's SPS Enquiry Point at sps@aqsiq.gov.cn. The following report contains an unofficial translation of this draft measure.

Executive Summary:

On September 4, 2015, China notified the WTO of the National Food Safety Standard on Edible Vegetable Oil (an update to GB 8955), issued by the National Health and Family Planning Commission (NHFPC), as SPS/N/CHN/997. The deadline for submission of final comments to China is November 3, 2015. This standard pertains to the processing of various edible vegetable oil and the production of various edible oil products based on the main materials of edible vegetable oil and fat. It will partially replace (GB8955-1988) on Hygienic Specifications of Edible Vegetable Oils Factory based on the National Food Safety Standard on General Hygienic Regulation for Food Production (GB 14881-2013). The proposed date of entry is yet to be determined. Comments can be sent to China's SPS Enquiry Point at sps@aqsiq.gov.cn. The following report contains an unofficial translation of this draft measure. In addition, interested parties are also welcomed to submit comments through the U.S. SPS Enquiry Point below so that comments can be considered as part of the U.S. Government official comment submission to the WTO:

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BEGIN TRANSLATION:

National Food Safety Standard Code of Hygienic Practice for the Production of Edible Vegetable Oil (Draft for comments)

Issued by National Health and Family Planning Commission of the People's Republic of China

Foreword

The standard will replace GB8955-1988 Hygienic Specifications of Edible Vegetable Oils Factory based on National Food Safety Standard: General Hygienic Regulation for Food Production GB 14881-2013.

In comparison with GB 8955-1988, the main changes in this standard are as follows:

- The standard name was modified: the former GB 8955-1988 Hygienic Specifications of Edible Vegetable Oils Factory was changed into Code of Hygienic Practice for the Production of Edible Vegetable Oil.
- The normative description of scope was implemented;
- The requirements for record and document management were added;
- The requirements for product tracing and recall were added;

- The requirements for management organization and personnel were added;
- The requirements for packaging material were added;
- Annex A, monitoring procedure of edible vegetable oil and edible oil product processing, was added.

National Food Safety Standard

Code of Hygienic Practice for the Production of Edible Vegetable Oil

1 Scope

This standard specifies the essential requirements and management rules for site, facility and personnel involved in raw materials procurement, processing, packaging, storage and transport and so on in the production process of edible vegetable oil and edible oil product.

This standard is applicable to the processing of various edible vegetable oil and the production of various edible oil products based on the main materials of edible vegetable oil and fat.

2 Terms and Definitions

2.1 GB14881-2013 the terms and definitions given in GB14881-2013 are applicable to this standard.

2.2 Virgin vegetable

The oil not directly consumable by humans, without any treatment and with oil plant as raw material.

2.3 Edible vegetable oil

The edible vegetable oil and fat made of oil plants or virgin vegetable oil.

2.4 Edible oil product

Solid, semi-solid or flowing vegetable fat product or mixture, made through one or several processing modes of refining, hydrogenation, transesterification and fractionation, with addition (or with no addition) of water and other auxiliary materials and by means of (or without) emulsifying, splat-cooling and kneading. It includes edible hydrogenated oil, margarine (artificial butter), shortening, cocoa butter substitute (cocoa butter equivalent), non-dairy cream and powdered oil, etc.

2.5 Vegetable oil extraction solvent

Food additives 6 # light petrol refined from straight run, the product is composed mainly of hexane and hydrogen compound.

3 Site selection and plant environment

3.1 It shall meet the regulations in chapter 3 of GB14881-2013.

3.2 No asphalt can be paved on the ground for oil plants stacking and sun-cure.

4 Factory building and workshop

4.1 It shall meet the regulations in chapter 4 of GB14881-2013.

4.2 Design and layout

4.2.1 The filling areas of edible vegetable oil and edible oil product shall be separated from other operating areas to prevent cross contamination.

4.2.2 According to the requirements of safety level and working environment for production workshop, the effective explosion-proof, leak proof and dust proof measures shall be taken if necessary, e.g., the dust proof facility for pre-treatment workshop, explosion-proof and leak proof workshop for leaching workshop explosion-proof facility for hydrogenation workshop, etc.

4.3 Building Internal Structure and Materials

4.3.1 For the fully enclosed refining workshop and hydrogenation workshop and so on, the open-type workshop shall be used with protective measure shall take for its feeding port, to ensure food safety.

4.3.2 The trench and oil removal and capture pool shall be provided on the ground in fat extraction and refining workshop, to prevent stagnant water.

4.3.3 The white or light-colored water-proof material shall be paved on the roof or ceiling of edible vegetable oil and edible oil product filling workshops, to prevent dust accumulation and falling-off.

5. Facilities and Equipment

5.1 They shall meet the regulations in chapter 5 of GB14881-2013.

5.2 Facility

5.2.1 The steam condensate with direct contact with steam condensate in edible vegetable oil processing shall meet the regulations of GB5749.

5.2.2 The changing room adaptive to the number of people in the workshop must be provided at the entrance of edible vegetable oil and edible oil product filling workshops, in a way separating the work clothes from individual clothes and other articles. The filling workshop shall be provided with the artificial ventilation measures and the air supply and exhaust system shall reduce the contamination and control the environmental peculiar smell; moreover, the temperature control shall be conducted for the edible oil product filling workshop.

5.2.3 The edible vegetable oil and edible oil product production plant shall have the storage tank, warehouse or goods yard adaptive to the product variety and quantity and shall be placed according to the different characteristics of raw material, semi-finished product, finished product and packaging material and shall be provided with the refrigerating/freezing chamber and insulation can if necessary. The edible vegetable oil storage tank shall be made of inert material which is available for contact with edible vegetable oil and will not react with the edible vegetable oil. The edible vegetable oil cannot be transported by copper and copper alloy storage tank. The edible vegetable oil storage tank must be firm, enclosed and non-toxic and designed and manufactured according to relevant regulations.

5.2.4 The oil plant pre-treatment workshop must be provided with the dust removal facility, to ensure that the dust concentration inside and outside the workshop meet the relevant national regulations.

5.2.5 The equipment and facilities in leaching and hydrogenation workshops and other high hazard level workshops shall be flame-proof and explosion-proof and provided with the gas defense and monitoring facilities.

5.3 Equipment

5.3.1 The special equipment applied in production process, e.g., pressure vessels and pressure pipelines, shall meet the relevant management requirements and be provided with the corresponding operating procedures.

5.3.2 All equipment and appliances with direct contact with the raw material oil, semi-finished product and finished product, shall be made of inert material which is available for contact with edible vegetable oil and will not react with the edible vegetable oil. Copper and other alloy materials are forbidden. The product contact surface shall meet the related requirements of food safety.

5.3.3 The comprehensive equipment maintenance and repair shall be carried out at least once a year; and any problem discovered shall be settled in time.

5.3.4 The self-produced and self-used nitrogen production equipment shall be provided with the appropriate protective facility and nitrogen purity indicating device; moreover, the nitrogen purity shall be checked and recorded on a regular basis.

6 Hygienic management

6.1 It shall meet the regulations in chapter 6 of GB14881-2013.

6.2 The closed production and storage sites, e.g., edible vegetable oil and edible oil filling workshop and warehouse, shall be provided with the effective measures (e.g., screen window, rat guard and air curtain), to prevent the invasion of rodent.

6.3 It is required to wear dedicated work clothes prior to entrance into the edible vegetable oil and edible oil filling workshop and other areas of high requirements.

6.4 It is required to wear anti-static work clothes and work shoes prior to entrance into leaching workshop and hydrogenation workshop and other workshops or areas with potential inflammable and explosive hazard.

7 Edible vegetable oil raw material, edible vegetable oil additive and edible vegetable oil related products

7.1 It shall meet the regulations in chapter 7 of GB14881-2013.

7.2 According to the characteristics and requirements of edible vegetable oil and edible oil product raw material, the thermal insulation and refrigeration facilities shall be provided if necessary, to control the temperature and so on.

7.3 The silo and storage tank for storage of bulk edible vegetable oil and edible oil product raw material shall be stored individually according to different varieties and quality grades.

7.4 Attention shall be paid to the temperature influence on product quality during storage of edible vegetable oil and edible oil product raw material.

7.5 The sealing performance shall be kept and the packaging container offered to the consumer shall be convenient for un-packaging and use.

8 Safety control of edible vegetable oil in production process

8.1 It shall meet the regulations in chapter 8 of GB14881-2013.

8.2 Product contamination risk control

8.2.1 The cooking temperature, decoloring and sweetening process temperature and vacuum degree and other crucial process parameters, shall be controlled strictly in accordance with the process requirements, to ensure that the product meets the requirements of edible vegetable oil safety standard.

8.2.2 Various processing agents, e.g., acid, alkali, activated carbon, activated clay, infusorial earth and nickel, shall be used in a reasonable way according to the process demand to avoid excessive addition and shall be removed by water flushing and filtration and other processes effectively.

8.2.3 The heating medium and refrigerant management shall be strengthened and shall meet the requirements of relevant laws and regulations on safety production to prevent leakage effectively.

8.2.4 The immersion oil management shall be strengthened and paraffin absorption from immersion oil tail gas shall be conducted in a strict accordance with equipment requirement, to prevent the paraffin mixing into crude oil.

8.2.5 The equipment lubricating oil (grease) management shall be enhanced and the food-grade lubricating oil (grease) shall be used for the equipment with direct or indirect contact with edible vegetable oil.

8.3 Microbial contaminant control

8.3.1 The key microbiological monitoring processes shall be determined for the environment and production processes according to the characteristics of edible oil product produced. Especially, the processing of water-containing edible fat products shall be monitored according to the requirements of Annex A1.

8.3.2 In case of abnormal monitoring index of water-containing edible fat product at the end of production line, the sampling frequency of environmental microorganism monitoring shall be strengthened and the sampling points shall be increased as appropriate, and the corrective measures shall be taken.

8.4 Chemical contamination control

8.4.1 The solvent residue in extracted crude oil and nickel in hydrogenated oil and fat shall be controlled for conformity with the requirements of relevant hygienic standards.

8.4.2 The key monitoring processes in production process shall be determined for the environment and production processes according to the characteristics of edible vegetable oil and edible oil product produced, and the monitoring shall be conducted according to the requirements of Annex A2.

8.5 Physical contamination control

The operating rules shall be developed and the monitoring shall be performed for the screen mesh, filter and metal detector and other foreign matter control facilities, and analysis of any foreign matter discovered shall be made with corresponding control measures taken for it.

8.5 Packaging

The precision filter or metal detector and other foreign matter control devices shall be provided and kept available for the packaging section.

9 Inspection

9.1 It shall meet the regulations in chapter 9 of GB14881-2013.

9.2 The delivery inspection record shall include product name, specification, quantity, batch number, date of manufacture, report date, inspection result and other contents, or other customer requirements as stipulated in the contract.

10 Edible vegetable oil storage and transport

10.1 It shall meet the regulations in chapter 10 of GB14881-2013.

10.2 The bulk edible vegetable oil and edible oil product shall be stored separately in different storage tanks according to the different varieties and grades, and if the edible vegetable oil and fat of different varieties and grades are stored in the same storage tank, the storage tank and relevant transportation pipelines shall be cleaned to prevent cross contamination.

10.3 According to the characteristics and requirements of edible vegetable oil and edible oil product raw material, the thermal insulation and refrigeration facilities shall be provided if necessary, to control the temperature and so on.

10.4 The vehicle and ship and other conveyances and vessels for transport of edible vegetable oil and edible oil product must meet the related requirements of food safety. The corresponding measures shall be taken for the product with particular requirements according to its characteristics.

10.5 It is forbidden to store and transport the edible vegetable oil and edible oil product together with non-edible vegetable oil and other toxic and harmful substances or foreign matters.

10.6 If the goods of different natures are stored in the same warehouse or goods yard, they shall be separated (by category and zone), and if the edible vegetable oil and fat of different varieties and grades are stored in the same storage tank, the storage tank and relevant transportation pipelines shall be cleaned to prevent cross contamination.

11 Product tracing and recall management

11.1 It shall meet the regulations in chapter 11 of GB14881-2013.

11.2 The production batch shall be divided and recorded in a reasonable way and the batches and other methods may be adopted for identification and product tracing.

12 Training

It shall meet the regulations in chapter 12 of GB14881-2013.

13 Management system and personnel

It shall meet the regulations in chapter 13 of GB14881-2013.

14 Record and document management

It shall meet the regulations in chapter 14 of GB14881-2013.

Monitoring procedure of edible vegetable oil and edible oil product processing

Table A1. Microbiological monitoring of water-containing edible oil product processing

Monitoring item		Sampling point	Microbiological monitoring	Monitoring frequency	Monitoring index limit
Environmental microbiological monitoring	Contact surface of edible vegetable oil	Surface of the equipment and the hands of the people processing edible oil	Total bacteria	Each month	Monitoring index limit determined according to the actual product condition
	Contact surface adjacent to edible vegetable oil or vegetable oil contact surface	The outer surface of the equipment and control panel	Total bacteria	Each month	Monitoring index limit determined according to the actual product condition
	Ambient air in the processing area	Location close to the exposed pre-cooling product ^b	Total bacteria	Each month	Monitoring index limit determined according to the actual product condition
Microbiological monitoring in processing		Intermediate product after the heating and pre-cooling treatment	Total bacteria	Once a batch	Determine the monitoring index limit according to the monitoring of product at the end of product line
Microbiological monitoring of water-containing edible oil product ^a		Edible oil product prior to packaging at the end of the production line	total bacteria and coli group	Once a batch	Follow the national food safety standard of edible oil product
^a Sample shall be fetched and treated according to GB 4789.1 .					
^b Limited to the product water-containing edible oil product only.					

Table A2. Physical and chemical monitoring in edible vegetable oil processing

Sampling point	Monitoring items and index	Monitoring frequency	Monitoring index limit
Cooking section	Temperature	At least once 12 hours	≤120°C
Stripping section	Solvent residue in crude oil Heating test (280°C)	At least once 12 hours At least once 12 hours	≤100ppm There is not a lot of precipitate.
Alkali refining section	Acid value and saponified matter content	At least once 12 hours	To be determined in accordance with the actual production conditions
Decoloring section	Color and acid value	At least once 12 hours	To be determined in accordance with the actual production conditions
Sweetening section	Color, acid value and peroxide value Vacuum degree and temperature	At least once 12 hours At least once 4 hours	Product standard To be determined in accordance with the actual production conditions
Winterization section	Acid value and peroxide value	At least once 12 hours	Higher than the product standard
Filling section	Acid value and peroxide value	At least once a batch	Higher than the product standard
High-capacity packaging	Acid value and peroxide value	At least once a month(indoor) At least once half a month (outdoor)	Higher than the product standard
Storage tank (outdoor)	Acid value and peroxide value	At least once a week	Higher than the product standard

Table A3. Physical and chemical monitoring in edible oil product processing

Sampling point	Monitoring items and index	Monitoring frequency	Monitoring index limit
Processing site and	Temperature	They shall be determined according to	Low temperature (to be determined in accordance

storage site		the actual production condition.	with the actual production conditions)
Dehydration section	Moisture	They shall be determined according to the actual production condition.	Moisture (monitoring index limit: to be determined in accordance with the actual production conditions)
High-capacity packaging	Acid value and peroxide value	At least once a month (indoor) At least once half a month (outdoor)	The nitrogen or carbon dioxide shall be filled as far as possible and no air agitation is allowed
Processing workshop	Illumination and ray	They shall be determined according to the actual production condition.	To be determined in accordance with the actual production conditions
Storage tank	Metal ion	At least once a week	Copper and other alloy materials are forbidden