EU ASIA COOPERATION
on (PHYTO-) SANITARY (SPS) and
FOOD SAFETY REGULATION

COMPARISON OF HYGIENE LEGISLATION AND FOOD SAFETY STANDARDS

For fresh and dehydrated vegetables and dried beans, dried fruits, unroasted coffee beans and cocoa beans

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INTRODUCTION

The overall objective of the project is to contribute to the facilitation of trade of fresh fruits and vegetables between the European Union and the People's Republic of China by a systematic comparison of standards applicable to Fresh and dehydrated vegetables and dried beans and dried fruits.

LIST OF CHINESE NATIONAL STANDARDS ASSESSED

FRESH AND DEHYDRATED VEGETABLES AND DRIED BEANS

GB/T 18526.3-2001	Code of good irradiation practice for the control of pathogens and other microflora in dehydrated vegetables
GB/T 26432-2010	Guidelines for storage and transportation technique of vegetables
GB 1352-2009	Soybean

DRIED FRUITS

GB 16325-2005	Hygienic standard for dried fruits
GB 14891.3-1997	Hygienic standard for irradiated dried nuts and preserved fruits
GB 14884-2016	National Food Safety Standard -- Preserved Fruits
GB 8956-2016	National Standards for Food Safety. Specification of Hygienic Practice for the Production of Preserves
GB/T 31318-2014	Preserved fruits -- Hawthorn products
GB/T 10782-2021	General rule for the quality of preserved fruits
GB/T 24307-2009	Quality grades of products for Carya cathayensis Sarg.
GB/T 20398-2021	Grade of walnut

The two standards below haven't been compared as they aren't relevant to food hygiene and food safety as they make reference to specific techniques of laboratory microbiological analysis.

GB/T 4789.24-2003	Microbiological examination of food hygiene -- Examination of candy, cake and preserved fruits
GB/T 26909-2011	Guidelines for the conduct of tests for distinctness, uniformity

RESULTS AND CONCLUSIONS

GB/T 18526.3-2001 Code of good irradiation practice for the control of pathogens and other microflora in dehydrated vegetables

Currently the only foodstuffs authorised for irradiation treatment (i.e. treated with ionising radiation) by the EU are dried aromatic herbs, spices and vegetable seasonings.
There are a number of Member States authorisations published in the Official Journal (2009/C 283/02). These include authorisation for dried vegetables and fruits in Belgium, Czech Republic, France, and the Netherlands. A maximum dose of 1 kGy is specified in this authorised list, whereas this Chinese standard includes a minimum effective dose of 4kGy up to a maximum dose of 10kGy. National legislation would have to be consulted for further comparison.

While EU legislation allows for the import of irradiated foodstuffs they must appear on the authorised list or be authorised by individual MS in order to be placed on that country's market. They must also be treated in an approved irradiation facility.

GB/T26432-2010 Guidelines for Storage and Transport of Vegetables

This standard includes some details that would be found in Guides to Good Practice in the EU e.g. pre-treatment, pre-cooling and palletizing.

There are additional marketing standards required in EU legislation that are not addressed in this Chinese standard e.g. minimum maturity requirements, tolerances and more detailed marking requirements.

The Chinese standard does not detail the packaging requirements here but does refer to similar parameters i.e. packaging materials, containers, methods and packaging markings, which are addressed in EU legislation. The cross-referenced standards SB/T 10158 and SB/T 10448 would need to be compared to those in Regulations 852/2004 and 543/2011.

The provision in the Chinese standard GB/T 26432-2010 for storage and transport appear similar to those in EU legislation. However, for completeness the detail in cross-referenced standards should also be compared.

GB1352-2009 Soybean

There is no specific EU legislation that defines standards for soybeans, rather it is covered by the general marketing requirements laid down in Regulation (EU) No 543/2011.

However, where the holder is able to show that the products are in conformity with any applicable standards adopted by the United Nations Economic Commission for Europe (UNECE), they shall be considered as conforming to the general marketing standard.

There is a UNECE standard FFV-06 concerning the marketing and commercial quality control of beans, however, this only applies to beans of varieties (cultivars) grown from Phaseolus vulgaris L. and Phaseolus coccineus L. to be supplied fresh to the consumer, beans for shelling or industrial processing being excluded. It does not apply to Glycine max (Soybean).

Therefore there do not appear to be any equivalent requirements in EU legislation.

Dried fruits

Overall assessment of the Chinese Standards shows significant differences in approaches taken by the EU and China for ensuring safety and quality of the food products. In the EU there are no specific standards with hygiene requirements for particular categories of food products, instead there is a horizontal approach to regulation is adopted, encompassing a wide range of aspects related to food safety. This approach begins with general food safety and hygiene requirements applicable to all food business operators, encompassing Good Manufacturing Practices (GMP), Hazard Analysis and Critical Control Points (HACCP), Contaminants and Pesticides Maximum Residue Levels, Microbiological Criteria, Addition of Preservatives, Vitamins and Minerals, Irradiation of Food Products, Labelling and Packaging, and has more specific hygiene and safety rules for specific categories, among others, organic products, traditional specialties and agricultural products and foodstuffs with protected denominations, geographical indications and designations of origin.

It is crucial to note that reviewed Chinese National Standards, are tailored to specific product categories, focusing on major safety requirements relevant to those products, but frequently omitting essential hygiene aspects or lacking the necessary level of detail for ensuring the safety of products for consumers. For instance, when examining the Chinese Standard for irradiated dried nuts and preserved fruits, it becomes evident that it lacks an overall authorization and notification procedure for business operators before irradiating foods. In contrast, the EU Member States have established a rigorous authorization process involving the scrutiny of the irradiation process and compliance with specific conditions and restrictions. Notably, the Chinese Standard does not impose such notification requirements or authorization procedures. Furthermore, the EU Directive specifies maximum permitted doses of ionizing radiation for various food categories, while the Chinese Standard GB 14891.3-1997 lacks such detailed specifications.

Another illustrative example pertains to the Chinese Standard for hickory nuts, which does not include references to Maximum Residue Limits (MRLs) for pesticides. In contrast, in the EU there are tests and analytical methods used to detect and measure pesticide residues in nuts among other agricultural products. Also that Chinese Standard for nuts misses labelling provisions. These legal gaps illustrate the deficiencies of the approach of multiple standards established for each category of a food product: when some provisions are identical and repeated every time for every products, yet are not comprehensive enough, fail to cover essential aspects adequately.

Though most Chinese Standards touch upon issues related to transportation and storage, recognizing the importance of those stages for safety of food products, they generally lack references to critical elements such as temperature control, measures to prevent cross-contamination of foods, regular cleaning and sanitation of storage areas, equipment, and containers, pest control measures, traceability and storage records, monitoring of shelf-life management, and the establishment of emergency plans for storage facilities. In the realm of food transport, Chinese Standards notably lack references to vehicle design and maintenance requirements, which are essential to ensure the safe and sanitary transport of food products. This includes provisions for proper ventilation, insulation, and refrigeration systems in vehicles. In the EU requirements for all stages of food production, processing and preparation are covered by detailed comprehensive regulation and more importantly, the principles of GMP and hazard analysis and critical control points (HACCP) are applied throughout the food industry to ensure quality and safety. Regulation (EC) No 852/2004 on the hygiene of foodstuffs requires all food businesses to implement a HACCP system.

One of the most pivotal distinctions underscored by this assessment is the apparent absence of a risk-based approach in the Chinese National Standards, a key element in the context of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures. The risk-based approach relies on the scientific assessment of actual risks associated with specific products and their production methods, thereby eliminating the need for all-encompassing laboratory tests unrelated to identified risks. This approach ensures that a country's trade measures are grounded in scientific assessment rather than being arbitrary or discriminatory. The legal assessment has revealed that the Chinese Standards generally have number of inspections fixed, require all products to be tested, etc. – this is clear indication that risk is not taken into account.

Finally, it is imperative to note the significant contrast between the EU and Chinese approaches concerning official controls as part of the overall system for ensuring food safety. In the EU, food business operators are mandated to maintain meticulous records of their operations, a requirement conspicuously absent in Chinese Standards. Furthermore, Chinese Standards do not explicitly make reference to monitoring and enforcement procedures. While some Chinese Standards may have their own enforcement mechanisms and monitoring procedures, these could diverge from the EU's approach.

In conclusion, the comparison of Chinese Standards with EU food safety legal regulation underscores substantial differences in their approaches to food hygiene and quality assurance. These differences encompass regulatory scope, detail, risk assessment, and enforcement mechanisms, highlighting the need for careful consideration and potential harmonization of standards to facilitate international trade while ensuring consumer safety.

1 SUMMARY COMPARISON

Chinese National Food Safety Standard	Directive
GB/T 18526.3-2001 Code of good irradiation practice for the control of pathogens and other microflora in dehydrated vegetables	Dehydrated vegetables are not included in EU list of foodstuffs authorised for irradiation treatment. The only foodstuff authorised for irradiation treatment in **Directive 1999/3** are dried aromatic herbs, spices and vegetable seasonings. A number of Member States have authorised irradiation treatment of dried fruit and vegetables (OJ **2009/C283/02**). Although the max dose permitted in these MS is 1kGy, while the Chinese standard has a max dose of 10kGy.
GB/T26432-2010 Guidelines for Storage and Transport of Vegetables Quality requirements, including contaminants and pesticide limits, are included in cross-referenced standards GB 2762 and GB 2763.	Rules for marketing fresh vegetables in the EU are specified in Regulation 543/2011. Maximum levels for contaminants and pesticide residues are detailed in **Regulation 315/93, Art.2** and **Regulation 396/2005, Art. 18** respectively. These rules and limits should be compared to those in the cross-referenced standards. Certain marketing requirements in EU legislation i.e. maturity requirements and tolerances are not included in the Chinese standard.
GB/T26432-2010 Guidelines for Storage and Transport of Vegetables The Chinese standard includes requirements for pre-treatment (3.2), pre-cooling (3.4), palletizing (4.2) and storage methods (4.1-4.4)	EU legislation focuses more on the objectives to be achieved in terms of food safety and topics like this would generally be found in Guides to Good Practice in the EU.
GB/T26432-2010 Guidelines for Storage and Transport of Vegetables 3.3 Packaging	**Regulation 852/2004, Annex II, Chapter X** details requirements for packaging of foodstuffs. The Chinese standard does not detail packaging requirements but does refer to similar parameters i.e. packaging materials, containers, methods and packaging markings, and refers to additional standards SB/T 10158 and SB/T 10448
GB/T26432-2010 Guidelines for Storage and Transport of Vegetables 3.5 Storage and Transport	The Chinese standard does require measures to prevent contamination, however, it does not explicitly highlight the need to prevent contamination by allergens, which is included in **Regulation 852/2004, Annex II, Chapter IX, 9**.

Chinese National Food Safety Standard	Directive
GB/T26432-2010 Guidelines for Storage and Transport of Vegetables 5 Transport	The issue of cross-contamination is not specifically addressed in this section on Transport, whereas there are specific requirements in Regulation 852/2004, Annex II, Chapter IV. The issue of contamination is addressed in other parts of the standard (section 3.5)
GB1352-2009 Soybean	There is no specific EU legislation that defines standards for soybeans, rather it is covered by the general marketing requirements laid down in **Regulation (EU) No 543/2011.**
GB1352-2009 Soybean 5.1 Quality Requirements	**Regulation 543/2011, Annex I, Part A, 3**. Sets a tolerance of 10% of product not meeting minimum quality requirements. In the Chinese Standard Grade 1 and Grade 2 Soybean would meet this requirement for intact grains (Table 1). Grade 3, 4 & 5 Soybeans have a higher allowance for non-intact grains. The allowance for intact grains for high oil soybeans would not meet this tolerance requirement (Table 2). While the allowance for intact grains for high-protein soybeans would meet this tolerance (Table 3).
GB1352-2009 Soybean 8 Labelling and identification	The Chinese standard refers to GB7718, which would need to be compared to the marking requirements in Regulation 543/2001 for equivalence. Both require origin to be included in labelling. The Chinese standard also requires type, grade, harvest year and month, which are not specifically included in the EU General Marketing Standard.
GB1352-2009 Soybean 9.3 Transport	The Chinese standard does require measures to prevent contamination, however, it does not explicitly highlight the need to prevent contamination by allergens, which are included in Regulation 852/2004 Annex I, Part A, 5a and Annex II Chapter IX, 9.

Chinese National Food Safety Standard	Directive
GB 16325-2005 Hygienic standard for dried fruits	This Chinese Hygiene Standard for Dried Fruit Standard does not mention addition of vitamins and minerals to dried fruits. It should be noted that fortification, the process of adding essential vitamins and minerals to food products, is a common practice to enhance the nutritional value of foods, including dried fruits. Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods.
GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	Directive 1999/2/EC on the irradiation of foods and food ingredients; Directive 1999/3/EC of the European Parliament and of the Council of 22 February 1999 on the establishment of a Community list of foods and food ingredients treated with ionising radiation. This Chinese National Standard lacks an overall authorization and notification procedure for business operators before irradiating foods. In contrast, the EU Member States have established a rigorous authorization process involving the scrutiny of the irradiation process and compliance with specific conditions and restrictions. Notably, the Chinese Standard does not impose such notification requirements or authorization procedures. Furthermore, the EU Directive specifies maximum permitted doses of ionizing radiation for various food categories, while the Chinese Standard GB 14891.3-1997 lacks such detailed specifications.
GB 14884-2016 National Food Safety Standard -- Preserved Fruits	The use of preservatives in food is regulated by specific EU Regulations: • Regulation (EC) No 1331/2008 of the European Parliament and of the Council of 16 December 2008 establishing a common authorisation procedure for food additives, food enzymes and food flavourings (OJ L 354, 31.12.2008, p. 1–6) • Regulation (EC) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives, • Regulation (EC) No 1332/2008 of the European Parliament and of the Council of 16 December 2008 on food enzymes and • Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods (hereinafter referred to as the sectoral food laws) laying down harmonised criteria and requirements concerning the assessment and authorisation of these substances. In the EU, EFSA conducts scientific risk assessments of food additives, including preservatives, to evaluate their safety for human consumption. Major differences of the Chinese National Standard with EU approach are: 1) Authorization Process & Pre-market Approval: Before a preservative can be used in food products within the EU, it must be authorized by the European Commission. The approval process involves evaluating safety data, including toxicity studies and dietary exposure assessments. 2) Maximum Permitted Levels: Regulation (EC) No 1333/2008 specifies maximum permitted levels (MPLs) for various preservatives in different food products. These MPLs are based on safety assessments and aim to ensure that consumption remains within safe limits. 3) Use Conditions - the Regulation defines the conditions under which each preservative can be used in food products. This includes information on the types of foods, usage levels, and any restrictions or specific labelling requirements. 4) Labelling Requirements: Preservatives used in food products must be listed on the ingredient label with their specific names or E-numbers. For certain preservatives, the label must indicate the quantity used in the product, expressed as a percentage of the final product.

Chinese National Food Safety Standard	Directive
GB 8956-2016 National Standards for Food Safety. Specification of Hygienic Practice for the Production of Preserves	Key points regarding food preservatives in the EU regulation on food additives include: **Safety Assessment**: Before a food preservative can be authorized for use in the EU, it must undergo a safety assessment by the European Food Safety Authority (EFSA). **Authorized Preservatives:** Food preservatives are listed in Annex II of Regulation (EC) No 1333/2008. Each preservative is assigned an E-number, which is used to identify it. **Maximum Allowable Limits**: The regulation specifies the maximum allowable levels (maximum permitted levels or MPLs) for each authorized food preservative in various food categories. **Labelling Requirements:** Food products containing food preservatives must be labelled with the name or E-number of the preservative used, so consumers are informed about their presence in the product. **Revision and Re-evaluation:** The regulation is periodically reviewed and updated to reflect new scientific evidence or changes in food safety standards. If new information arises that suggests a safety concern with a specific preservative, it can be re-evaluated, and its authorization may be modified or revoked. **Acceptable Daily Intake (ADI**): Each food preservative is assigned an ADI, which represents the amount of the additive that can be consumed daily over a lifetime without appreciable health risk. Since this Chinese Standard makes reference to recall of food products, it should be mentioned that the EU has specific regulations and guidelines related to food product recalls, and one of the key regulations is Regulation (EC) No 178/2002. Under Regulation (EC) No 178/2002 (Article 19), food businesses are required to notify authorities when they believe that a food product they have placed on the market may be unsafe. The Regulation also sets out requirements for information exchange and cooperation between food businesses, competent authorities, and the European Commission in the event of a food safety issue or recall. It can be seen that EU approach is comprehensive and risk based. The provisions within Regulation (EU) 2017/625 are designed to enhance the efficiency and effectiveness of official controls and inspections related to food safety, animal health, animal welfare, plant health, and plant protection products within the European Union. The Chinese National Standard makes some refences to training of personal and hygiene requirements for premises & equipment, but does not refer clearly that it is a major responsibility of all food business operators to put in place, implement and maintain a permanent procedure or procedures based on the HACCP principles.
GB/T 31318-2014 Preserved fruits -- Hawthorn products	The hygiene & technical requirements for hawthorn products made from hawthorn, sugar and/or starch sugar as the main raw materials and processed by cooking, pulping, moulding and drying, or by candied and drying processes, in the EU would be found in Regulation No 852/2004 on the hygiene of foodstuffs (covering all foodstuffs). Since this Chinese Standard has specific section on Inspection Rules, it should be noted that Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health, and plant protection products includes provisions related to testing and inspection. Here are some of the key issues that pertain to these activities, that are lacking in the Chinese Standard: 1. Risk Based Approach 2. Sampling Plans & Sampling for Control Purposes 3. Responsibilities of Food Business Operators 4. Product Testing and Documentation 5. Specific Requirements for Certain Products

Chinese National Food Safety Standard	Directive
	For example, ➢ **Testing Requirement:** • Chinese Standard: "The type test items include all items specified in this standard." • EU Regulation: specific regulations define type testing requirements for certain product categories. However, the general principle is that products should comply with applicable regulations, including safety and quality standards. ➢ **Frequency of Type Testing:** • Chinese Standard: "Every six months should be a type test of the product." • EU regulations typically do not specify a fixed frequency for type testing. Instead, they may require manufacturers to conduct regular testing or establish a testing schedule based on risk assessment and product characteristics. ➢ **Circumstances for Additional Type Testing:** • Chinese Standard: Lists several circumstances when additional type testing is required, such as changes in raw materials, process changes, resuming production after suspension, significant differences in factory inspection results, and requirements from state quality supervision agencies. • EU regulations may require manufacturers to re-evaluate and potentially retest their products in cases of significant changes in product composition, manufacturing processes, or other factors that may affect product safety or compliance. State or competent authorities may also initiate testing or inspections as needed for regulatory compliance.
GB/T 10782-2021 General rule for the quality of preserved fruits	Regulation (EC) No 852/2004; Regulation (EU) No 1308/2013; Regulation (EU) No 543/2011; Regulation (EC) No 1333/2008 on food additives. The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This Regulation ensures accurate information about ingredients, allergens, nutritional values, and origin. Such provisions are missing in this Chinese Standard. EU has established a comprehensive framework of specific requirements for the transport, storage and sale of foodstuffs. These regulations are characterized by their meticulous attention to detail and a strong emphasis on ensuring the safety, integrity, and quality of food products throughout the entire supply chain. Most of the EU requirements are not mentioned by this Chinese Standard.
GB/T 24307-2009 Quality grades of products for Carya cathayensis Sarg.	It should be noted absence in this Chinese Standard of the reference to labelling (in the EU, labelling and packaging requirements are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers). This EU Regulation ensures accurate information about ingredients, allergens, nutritional values, and origin. Also this Chinses Standards does not contain references to MRLs for pesticides - Annexes to Regulation (EC) 396/2005 set out the list of products subject to control and MRLs applicable to them. Issues of inspection and control, as well as transportation and storage as in all other reviewed standards.
GB/T 20398-2021 Grade of walnuts	It should be noted that before there was Commission Regulation (EC) No 1284/2002 of 15 July 2002 laying down the marketing standard for hazelnuts in shell, with similar requirements, OJ L 187, 16.7.2002, p. 14–20, however, no longer in force, repealed by Commission Regulation (EC) No 1221/2008 of 5 December 2008 amending Regulation (EC) No 1580/2007 laying down implementing rules of Council Regulations (EC) No 2200/96, (EC) No 2201/96 and (EC) No 1182/2007 in the fruit and vegetable sector as regards marketing standards, OJ L 336, 13.12.2008, p. 1–80, which was repealed referred Regulation - REGULATION (EU) No 543/2011. In conclusion, the European Union (EU) has established a comprehensive framework of specific requirements for the **transport and storage of foodstuffs, including nuts**. These regulations are characterized by their meticulous attention to detail and a strong emphasis on ensuring the safety, integrity, and quality of food products throughout the entire supply chain. Most of the EU requirements are not mentioned by the Chinese Standard.

2 DETAILED ANALYSIS

2.1 GB/T 18526.3-2001 CODE OF GOOD IRRADIATION PRACTICE FOR THE CONTROL OF PATHOGENS AND OTHER MICROFLORA IN DEHYDRATED VEGETABLES

GB/T 18526.3-2001 Code of good irradiation practice for the control of pathogens and other microflora in dehydrated vegetables	EU legislation	Implementing rules and comparative evaluation
Scope This standard specifies the irradiation process and requirements for dehydrated vegetables. This standard applies to the sterilization and mould prevention of dehydrated vegetables.	**Directive 1999/2/EC** of the European Parliament and of the Council of 22 February 1999 on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation **Directive 1999/3/EC** of the European Parliament and of the Council of 22 February 1999 on the establishment of a Community list of foods and food ingredients treated with ionising radiation List of Member States' authorisations of food and food ingredients which may be treated with ionising radiation (According to Article 4(6) of Directive 1999/2/EC of the European Parliament and of the Council on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation) (**2009/C 283/02**)	**Directive 1999/3/EC** Annex, Currently the only foodstuffs authorised for irradiation treatment (i.e. treated with ionising radiation) by the EU are dried aromatic herbs, spices and vegetable seasonings. There are a number of Member States authorisations published in the Official Journal (**2009/C 283/02**). These include authorisation for dried vegetables and fruits in Belgium, Czech Republic, France, and the Netherlands, with a maximum dose of 1 kGy. National legislation would have to be consulted for further details. Article 9 of Directive 1999/2/EC referred to as "the framework directive" , allows the import of foodstuffs treated with ionising radiation providing they comply with certain criteria. Refer to section 5 below for details.
3 Definitions 3.1 dehydrated vegetables Vegetables that have been dried and dehydrated from fresh vegetables. 3.2 Minimum effective dose The lower limit of the process dose required to achieve the purpose of irradiation. This standard refers to the minimum dose required to achieve sterilisation by irradiation of dehydrated vegetables.	**Dir 1999/2/EC** **2009/C 283/02**	There does not appear to be a specific definition for dried or dehydrated vegetables, or min/max dose in EU law For foodstuffs authorised for treatment by irradiation, either by the EU or individual MS, a maximum dose is specified in **Directive 1999/3/EC** Annex and **2009/C 283/02** respectively.

GB/T 18526.3-2001 Code of good irradiation practice for the control of pathogens and other microflora in dehydrated vegetables	EU legislation	Implementing rules and comparative evaluation
3.3 Maximum tolerated dose maximum tolerance dose The upper limit of the process dose that does not affect the quality of the irradiated product. This standard refers to the maximum dose that does not affect the quality of the dehydrated vegetables.		
4 Pre-irradiation requirements 4.1 Product The moisture content of the dehydrated vegetables should be <13% and the initial bacterial content should be <1x106/g. 4.2 Packaging The inner packaging should be sealed with food-grade, irradiation-resistant, protective material. The outer packaging should be corrugated and sealed with tape.	**Directive 1999/2/EC** **Directive 1999/2/EC**, Article 10	As dried vegetables are not on the EU authorised list, there is no specific reference to pre-irradiation moisture content. Materials used for packaging foodstuffs to be irradiated must be suitable for the purpose.
5 Irradiation 5.1 Irradiators and management As specified in Chapter 4 of GB/T 18524-2001. 5.2 Process dose The minimum effective dose for irradiated processing of dehydrated vegetables is 4 kGy and the maximum tolerated dose is 10 kGy.	**Directive 1999/2/EC**, Articles 8 & 9	Dir 1999/2/EC referred to as “the framework directive” allows the import of foodstuffs treated with ionising radiation providing they comply with certain criteria. These criteria include the requirement that foodstuffs can only be treated in a facility approved by the Community and which appears on the list of approved facilities (ref. **Article 9 Directive 1999/2/EC**). Foodstuffs must also comply with any conditions laid down for that foodstuff. There are also specific record keeping requirements detailed in Directive 1999/2/EC, Article 8. No minimum dose is specified in EU legislation. A maximum dose is specified, which relates to the specific foodstuff. As there is no EU authorisation for irradiation of dried vegetables, no dose is specified but there are a number of MS authorisations for “dried vegetables and fruit” (in BE, CZ, FR, NL), with a maximum dose of 1kGy. This is significantly lower than either the minimum effective dose (4kGy) or the maximum dose (10kGy) specified in the Chinese standard.

GB/T 18526.3-2001 Code of good irradiation practice for the control of pathogens and other microflora in dehydrated vegetables	EU legislation	Implementing rules and comparative evaluation
6 Post-irradiation requirements 6.1 Microbiological tests should be carried out after irradiation and samples should be kept for inspection. 6.2 Storage and transport should be in accordance with the requirements for storage and transport of foodstuffs and should not cause secondary contamination	**Regulation (EC) No 852/2004 on the hygiene of foodstuffs** **Regulation (EC) 852/2004, Article 1** **Regulation (EC) 852/2004, Article 4 (3a)** **Regulation (EC) No 852/2004** on the hygiene of foodstuffs	Food business operators must establish microbiological criteria based on a scientific risk assessment; and they must comply with microbiological criteria for foodstuffs. Microbiological criteria are laid down in Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs (and updates). Storage and transport of foodstuffs must comply with the requirements of Regulation (EC) 852/2004. The main objective being to maintain the integrity of the foodstuff and prevent contamination or growth of microorganisims. **Regulation (EC) No 852/2004,** Annex II, Part A, 8. **Regulation (EC) No 852/2004,** Annex II, Chapter IX, 9. **Regulation (EC) No 852/2004**, Annex II, Chapter IV 1.
7 Quality indicators for dehydrated vegetables after irradiation 7.1 Sensory requirements The original colour, smell and taste shall be maintained and the edible and functional properties shall remain unchanged. 7.2 Microbiological indicators shall conform to the provisions of Table 1/ Item / Indicator Number of bacterial colonies, pcs/g ≤ 10 000 Coliform, MPN/100g ≤ 30 Pathogenic bacteria (enteric pathogens and pathogenic cocci) Not detectable Microbiological test methods are in accordance with GB 4789.2, GB 4789.3, GB 4789.4, GB 4789.5, GB 4789.6, GB 4789.10, GB 4789.11.		Quality indicators, for irradiated dehydrated vegetable, are not defined in EU law. Microbiological criteria are laid down in **Regulation (EC) No 2073/2005** on microbiological criteria for foodstuffs (and updates). Although these are not specific to irradiated food nor are there specific criteria for dried vegetables.

GB/T 18526.3-2001 Code of good irradiation practice for the control of pathogens and other microflora in dehydrated vegetables	EU legislation	Implementing rules and comparative evaluation
8 Marking According to GB / T 18524-2001 in Chapter 8 of the implementation of the provisions.	**Directive 1999/2/EC**	Foods treated with ionising radiation shall bear one of the following indications: 'irradiated' or 'treated with ionising radiation', and other indications as stated in **Directive 1999/2/EC**, Article 6, 1(a). and **Regulation (EU) No 1169/2011**, Annex VI, Part A 3.
9 Repeated irradiation According to GB/T 18524-2001, chapter 7, repeat irradiation is allowed, but the cumulative dose should not exceed 10kGy.	**Directive 1999/2/EC, Article 5**	The maximum radiation dose for foodstuffs may be given in partial doses; however, the maximum radiation dose must not be exceeded. Irradiation treatment may not be used in combination with any chemical treatment having the same purpose as that treatment. Refer to section 5.2 for details on doses.
10 Shelf life The shelf life of dehydrated vegetables at room temperature is 12 months.	**Regulation 1169/2013** Provision of Food Information to Consumers (FIC)	Shelf-life for dehydrated vegetables is not specified in EU law. Rather it is up to the food business operator to specify the shelf-life. The date of minimum durability or the 'use by' date must be provided; Date of minimum durability of a food' means the date until which the food retains its specific properties when properly stored. **Regulation 1169/2013,** Chapter IV, Section 1, Article 9

2.2 GB/T 26432-2010 GUIDELINES FOR STORAGE AND TRANSPORTATION TECHNIQUE OF VEGETABLES

GB/T 26432 Guidelines for storage and transportation technique of vegetables	EU legislation	Implementing rules and comparative evaluation
1 Scope This standard specifies guidelines for the preparation of fresh vegetables for storage and transport, the manner and conditions of storage and transport, and the management of storage and transport. This standard applies to the storage and transport of fresh vegetables, including fresh vegetables for processing and distribution.	**Regulation (EU) No 1308/2013** of the European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007 Commission Implementing **Regulation (EU) No 543/2011** of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors **Regulation (EU) No 1308/2013**, Title II, Chapter I, Section I, Subsection II, Article 74-76 sets out the principles to which marketing standards for agricultural products should be developed. The vegetable products covered by the Regulation are listed in Annex I, Part IX. **Regulation (EU) No 543/2011** replaced Regulation 1234/2007. The General Marketing Standard for fruit and vegetables, after preparation and packaging, is defined in Annex I, Part A. See below for specific requirements.	Regulation 1308/2013 replaced Regulation 1234/2007. Fruit and vegetables may only be marketed in the EU if they comply with the marketing standards set out in Regulation 543/2011. Fruit and vegetables not covered by a specific marketing standard shall conform to the general marketing standard. However, where the holder is able to show that the products are in conformity with any applicable standards adopted by the United Nations Economic Commission for Europe (UNECE), they shall be considered as conforming to the general marketing standard. https://unece.org/fileadmin/DAM/trade/agr/standard/fresh/fresh_e.htm National authorities can exempt products (e.g. misshapen, under-sized) from specific marketing standards if they are labelled "products intended for processing" or "animal feed" or any other equivalent wording.(Regulation 543/2011, Title II, Chapter I, Article 4)

GB/T 26432 Guidelines for storage and transportation technique of vegetables	EU legislation	Implementing rules and comparative evaluation
3 Preparation for storage and transport **3.1 Quality requirements** The quality standards of the respective vegetable species shall be met. Contaminant limits and maximum residue limits for pesticides should comply with the relevant provisions of GB 2762 and GB 2763.	**Regulation (EU) No 543/2011**, Annex I, Part A General Marketing Standard for fruit and vegetables, after preparation and packaging 1. **Minimum requirements** Subject to the tolerances allowed, the products shall be: ○ intact, ○ sound; products affected by rotting or deterioration such as to make them unfit for consumption are excluded, ○ clean, practically free of any visible foreign matter, ○ practically free from pests, ○ free from damage caused by pests affecting the flesh, ○ free of abnormal external moisture, ○ free of any foreign smell and/or taste. • The condition of the products must be such as to enable them: ○ to withstand transportation and handling, ○ to arrive in satisfactory condition at the place of destination. 2. **Minimum maturity requirements** The products must be sufficiently developed, but not overdeveloped, and fruit must display satisfactory ripeness and must not be overripe. The development and state of maturity of the products must be such as to enable them to continue their ripening process and to reach a satisfactory degree of ripeness. 3. **Tolerance** A tolerance of 10 % by number or weight of product not satisfying the minimum quality requirements shall be permitted in each lot. Within this tolerance not more than 2 per cent in total may consist of produce affected by decay. 4. **Marking** (Refer to section 3.3 below for requirements)	Quality requirements are detailed in a number of EU Regulations: 1. Rules concerning marketing standards for agricultural products (including fresh vegetables) are specified in **Regulation 1308/2013** Title II, Chapter 1, Section 1, Subsection 2, Arts. 74-76. The detailed Rules for their application are detailed in Regulation 543/2011 2. Maximum levels for contaminants are included in Annex I, Regulation 2023/915. In principle, contaminant levels must be kept as low as can reasonably be achieved following good working practices, and must not be harmful to public health (Article 2, Regulation 315/93). 3. Maximum residue limits for pesticides are laid down in Annex II of Regulation 396/2005. A general default **MRL of 0.01 mg/kg** applies where a pesticide is not specifically mentioned (Article 18, Regulation 396/2005). The Chinese standard GB/T26432-2010 does not detail the quality standards here but does set out provisions for the same safety parameters i.e. contaminants and pesticide residues. The specific limits in the cross-referenced standards GB 2762 and GB 2763 would need to be compared to those in Regulations 2023/315 and 396/2005. Other marketing requirements set out in EU legislation such as maturity requirements and tolerances are not detailed in this Chinese standard.

GB/T 26432 Guidelines for storage and transportation technique of vegetables	EU legislation	Implementing rules and comparative evaluation
	Regulation (EU) No 543/2011, Title II, Chapter I Article 3: Fruit and vegetables not covered by a specific marketing standard shall conform to the general marketing standard. However, where the holder is able to show that the products are in conformity with any applicable standards adopted by the United Nations Economic Commission for Europe (UNECE), they shall be considered as conforming to the general marketing standard. https://unece.org/fileadmin/DAM/trade/agr/standard/fresh/fresh_e.htm (There are specific marketing standards for: apples, citrus fruit, kiwi fruit, lettuces, curled leaved and broad-leaved endives, peaches and nectarines, pears, strawberries, sweet peppers, table grapes and tomatoes.) **Regulation (EEC) No 315/93,** laying down procedures for contaminants in food, **Regulation (EU) 2023/915** on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006. Maximum levels for certain metals and other elements, specifically lead, cadmium, melamine, and perchlorate, are set for a range of vegetable products. The limits are specific to the product type. (Refer to Annex I, Regulation 2023/915)	

GB/T 26432 Guidelines for storage and transportation technique of vegetables	EU legislation	Implementing rules and comparative evaluation
	REGULATION (EC) No 396/2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC. Vegetable products covered by this Regulation are listed in Annex I. And maximum residue limits are specified in Annex II of the same Regulation. A general default MRL of 0.01 mg/kg applies where a pesticide is not specifically mentioned (Article 18, Regulation 396/2005)	
3.2 Pre-treatment Pre-treatment such as selection, washing, trimming and grading of fresh vegetables should be carried out as required to eliminate vegetables with mechanical injuries, wilting, ageing, pests and deformities. The pre-treatment process should be carried out in a cool and ventilated place and should be handled gently to minimise damage.	**Regulation (EC) No 178/2002** of the European Parliament and of the Council, of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety Section 4, General Requirements of Food Law, Article 14 Food safety requirements 1. Food shall not be placed on the market if it is unsafe. 2. Food shall be deemed to be unsafe if it is considered to be: (a) injurious to health; (b) unfit for human consumption.	EU legislation does not make specific provisions for the pre-treatment of agricultural products such as vegetables. Rather EU legislation focuses on the outcome that must be achieved i.e. food must be safe and fit for human consumption. However, the objectives are not different. As referred to previously, where the holder is able to show that the products are in conformity with any applicable standards adopted by the UNECE, they shall be considered as conforming to the general marketing standard (Regulation 543/2011**,** Title II, Chapter I Article 3).

GB/T 26432 Guidelines for storage and transportation technique of vegetables	EU legislation	Implementing rules and comparative evaluation
3.3 Packaging Fresh vegetables should be packaged with reference to the relevant regulations and requirements of SB/T 10158 and SB/T 10448 for packaging materials, containers, methods and packaging markings.	**Regulation (EC) No 852/2004** of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs This Regulation lays down general rules for food business operators on the hygiene of foodstuffs and shall apply to all stages of production, processing and distribution of food and to exports…(Article 1). **Regulation (EC) No 852/2004, Annex II, Chapter X** **Provisions applicable to the wrapping and packaging of foodstuffs** 1. Material used for wrapping and packaging are not to be a source of contamination. 2. Wrapping materials are to be stored in such a manner that they are not exposed to a risk of contamination. 3. Wrapping and packaging operations are to be carried out so as to avoid contamination of the products. Where appropriate and in particular in the case of cans and glass jars, the integrity of the container's construction and its cleanliness is to be assured. 4. Wrapping and packaging material re-used for foodstuffs is to be easy to clean and, where necessary, to disinfect. 4. **Marking** Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.	The Chinese standard GB/T26432-2010 does not detail the packaging requirements here but does refer to similar parameters i.e. packaging materials, containers, methods and packaging markings, which are addressed in EU legislation. The the cross-referenced standards SB/T 10158 and SB/T 10448 would need to be compared to those in Regulations 852/2004 and 543/2011. UNECE Code of Good Practice: Reducing food loss and ensuring optimum handling of fresh fruit and vegetables along the value chain 2nd edition (https://unece.org/sites/default/files/2023-07/ECE_TRADE_470_E_web.pdf) This UNECE code provides guidance on packaging e.g. Packages must be of a quality, strength and characteristic to protect the produce during transport and handling and maximize air circulation for effective cooling. Clean materials should be used to protect the produce from foreign matter.

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3.4 Pre-cooling Suitable pre-cooling methods should be selected according to the characteristics of the vegetable species and pre-cooled as soon as possible. The method of pre-cooling should be in accordance with the relevant provisions and requirements of SB/T 10448. Vegetables should be stored or transported as soon as possible after pre-cooling. If cold storage is used for pre-cooling, the amount of storage should be controlled to ensure the pre-cooling effect. **3.5 Storage and transport** The repository or means of transport should comply with relevant design codes, technical standards and hygiene requirements (e.g. cleaning, disinfection, ventilation, etc.). The repository or means of transport should not come into contact with toxic, harmful, odorous or easily contaminated articles. Regular servicing and maintenance of the repository or means of transport should be carried out before storage or transport and prepared for cooling.	A. *Identification* Name and physical address of the packer and/or the dispatcher (for example: street/city/region/postal code and, if different from the country of origin, the country). This mention may be replaced: — for all packages with the exception of pre-packages, by the officially issued or accepted code mark representing the packer and/or the dispatcher, indicated in close connection with the reference «Packer and/or Dispatcher» (or equivalent abbreviations). The code mark shall be preceded by the ISO 3166 (alpha) country/area code of the recognising country, if not the country of origin; — for pre-packages only, by the name and the address of a seller established within the Union indicated in close connection with the mention «Packed for:» or an equivalent mention. In this case, the labelling shall also include a code representing the packer and/or the dispatcher. The seller shall give all information deemed necessary by the inspection body as to the meaning of this code. B. *Origin* Full name of the country of origin. For products originating in a Member State this shall be in the language of the country of origin or any other language understandable by the consumers of the country of destination. For other products, this shall be in any language understandable by the consumers of the country of destination. Packages need not to bear the particulars mentioned in the first subparagraph, when they contain sales packages, clearly visible from the outside, and all bearing these particulars.	EU legislation does not make specific provisions for the pre-cooling of vegetables. Rather EU legislation focuses on the outcome that must be achieved i.e. food must be safe and fit for human consumption. However, the objectives are not different. The UNECE Code of Good Practice: Reducing food loss and ensuring optimum handling of fresh fruit and vegetables along the value chain 2nd edition provides guidance on handling, storage, transport, including pre-cooling and temperature control for vegetables. This may provide a useful comparison to the cross-referenced standards SB/T10448 and SB/T 10447. The hygiene requirements outlined in the Chinese standard GB/T 26432-2010 for storage and transport appear similar to those in EU legislation. For completeness the detail in cross-referenced standards should also be compared. The Chinese standard does require measures to prevent contamination, however, it does not explicitly highlight the need to prevent contamination by allergens.

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	These packages shall be free from any indications such as could mislead. When these packages are palletised, the particulars shall be given on a notice placed in an obvious position on at least two sides of the pallet. **Regulation (EC) No 852/2004,** Annex I, Part A, (Annex I applies to transport, storage and handling at the place of primary production) 5. Food business operators producing or harvesting plant products are to take adequate measures, as appropriate: a. to keep clean and, where necessary after cleaning, to disinfect, in an appropriate manner, facilities, equipment, containers, crates, vehicles and vessels; b. to ensure, where necessary, hygienic production, transport and storage conditions for, and the cleanliness of, plant products; **Regulation (EC) No 852/2004,** Annex II, Part A (Annex II applies to all food business except where Annex I applies) 8. Hazardous and/or inedible substances, including animal feed, are to be adequately labelled and stored in separate and secure containers. **Regulation (EC) No 852/2004,** Annex I, Part A, 5a, and Annex II, Chapter IX, 9: Equipment, conveyances and/or containers used for the harvesting, transport or storage of substances or products causing allergies or intolerances shall not be used for the harvesting, transport or storage of any food not containing that substance or product, unless the equipment, conveyances and/or containers have been cleaned and checked at least for the absence of any visible debris of that substance or product.	

GB/T 26432 Guidelines for storage and transportation technique of vegetables	EU legislation	Implementing rules and comparative evaluation
	Regulation (EC) No 852/2004, Annex II, Chapter IV 1. Conveyances and/or containers used for transporting foodstuffs are to be kept clean and maintained in good repair and condition to protect foodstuffs from contamination and are, where necessary, to be designed and constructed to permit adequate cleaning and/or disinfection.	
4 Storage **4.1 Storage methods** According to the variety and use of fresh vegetables, can be used to ventilate the library storage, refrigerated storage, air conditioning storage and other storage methods. **4.2 Palletizing** The arrangement of the pallets should be consistent with the direction of air circulation. The bottom of the pallets should be left with a certain gap (e.g. with pallets, etc.) and there should be a certain gap between the pallets. The parts of the cold storage near the evaporator and the cold air outlet should be covered to prevent freezing. Each stack should be marked with the species, source, quality level, harvest and storage time.	Refer also to section 3.5 above for details of EU requirements for storage and transport. **Regulation (EC) No 852/2004**, Annex II, Chapter I 2. (d) where necessary, provide suitable temperature-controlled handling and storage conditions of sufficient capacity for maintaining foodstuffs at appropriate temperatures and designed to allow those temperatures to be monitored and, where necessary, recorded. Regulation (EC) No 852/2004, Annex II, Chapter IX 5. Raw materials, ingredients, intermediate products and finished products likely to support the reproduction of pathogenic micro-organisms or the formation of toxins are not to be kept at temperatures that might result in a risk to health. The cold chain is not to be interrupted.	The Chinese standard GB/T 26432-2010 provides detail such as palletizing arrangements, and recording frequency of temperature and relative humidity. In the EU, such detailed provisions can be found in Guides to Good Practice such as the UNECE Code of Good Practice: Reducing food loss and ensuring optimum handling of fresh fruit and vegetables along the value chain 2nd edition. The UNECE standard provides guidance on storage including temperature control and suitable limits for specific vegetables. The Guidance document Commission Notice 2016/C 278/01, Annex I, mentions: 3.12. Temperature control of working and storage environment a) Temperature and humidity should be (automatically) recorded where relevant. b) Alarm devices should preferably be automatic. c) Chilling/heating capacity should be adapted to the amounts handled. d) Temperatures in the product during storage and transport should also be monitored.

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4.3 Storage conditions The temperature and relative humidity of the cold storage should meet the requirements of the corresponding vegetable species. Refer to the relevant provisions and requirements of SB/T 10447 for aerated storage. **4.4 Storage management** During storage, the temperature and relative humidity in the storage reservoir should be measured and recorded every 1h to 2h, and air circulation should be carried out regularly. Regular inspection and timely removal of vegetables with quality problems. The principle of "first in, first out" should be followed when leaving storage. Storage management should establish emergency plans and ensure effective implementation.	**Regulation (EC) No 852/2004**, Annex II, Chapter I 2. (d) where necessary, provide suitable temperature-controlled handling and storage conditions of sufficient capacity for maintaining foodstuffs at appropriate temperatures and designed to allow those temperatures to be monitored and, where necessary, recorded.	The provision in the Chinese standard GB/T 26432-2010 for storage appear similar to those in EU legislation. For completeness the detail in cross-referenced standards should also be compared.
5 Transport **5.1 Mode and means of transport** The mode of transport and means of transport shall be in accordance with the relevant regulations and requirements of SB/T 10448. **5.2 Transport conditions** Environmental conditions such as temperature and relative humidity shall be in accordance with the requirements of the respective vegetable species.	Regulation (EC) No 852/2004, Annex II, Chapter IV 1. Conveyances and/or containers used for transporting foodstuffs are to be kept clean and maintained in good repair and condition to protect foodstuffs from contamination and are, where necessary, to be designed and constructed to permit adequate cleaning and/or disinfection. 2. Receptacles in vehicles and/or containers are not to be used for transporting anything other than foodstuffs where this may result in contamination. 3. Where conveyances and/or containers are used for transporting anything in addition to	The issue of cross-contamination is not specifically addressed in this section on Transport, whereas there are specific requirements in EU legislation. The issue of contamination is addressed in other parts of the standard (section 3.5) In general the hygiene requirements outlined in the Chinese standard GB/T 26432-2010 for transport appear equivalent to those in EU legislation. However, the cross-referenced standard SB/T 10448 should also be compared for completeness.

GB/T 26432 Guidelines for storage and transportation technique of vegetables	EU legislation	Implementing rules and comparative evaluation
5.3 Transport management Environmental conditions such as temperature and humidity should be regularly observed and recorded during transport. Vegetables should be transported in good quality and sturdy packaging, with compact stamping yards and strong tying inside the means of transport to prevent slipping and crushing.	foodstuffs or for transporting different foodstuffs at the same time, there is, where necessary, to be effective separation of products. 4. Where conveyances and/or containers have been used for transporting anything other than foodstuffs or for transporting different foodstuffs, there is to be effective cleaning between loads to avoid the risk of contamination. 5. Foodstuffs in conveyances and/or containers are to be so placed and protected as to minimise the risk of contamination. 6. Where necessary, conveyances and/or containers used for transporting foodstuffs are to be capable of maintaining foodstuffs at appropriate temperatures and allow those temperatures to be monitored.	

2.3 GB/T 1352-2009 SOYBEAN

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
1 Scope This standard specifies the relevant terms and definitions, classification, quality requirements and hygiene requirements, test methods, inspection rules, labelling and identification, as well as packaging, storage and transport requirements for soybeans. This standard applies to commercial soybeans for acquisition, storage, transport, processing and sale. This standard does not apply to special varieties of soybeans other than those specified in the classification of this standard.	**Regulation (EU) No 1308/2013** of the European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007 Commission Implementing **Regulation (EU) No 543/2011** of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors **Regulation (EU) No 1308/2013**, Title II, Chapter I, Section I, Subsection II, Article 74-76 sets out the principles to which marketing standards for agricultural products should be developed. The vegetable products covered by the Regulation are listed in Annex I, Part IX.	There is no specific EU legislation that defines standards for soybeans, rather it is covered by the general marketing requirements laid down in **Regulation (EU) No 543/2011.** Note: Regulation 1308/2013 replaced Regulation 1234/2007.

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
3 Terminology and definitions The following terms and definitions apply to this standard. **3.1 Perfect kernel** A grain that is intact and normal. **3.2 Immature kernel** Kernels that are not full, have been deflated to one-half or more of the surface of the kernel or have a greenish part of the cotyledons to one-half or more (except green kernel soya beans) and are significantly different from normal kernels. **3.3 Damaged kernel** Soybean kernels damaged by severe friction, frostbite, bacterial damage, mould damage, sprouting, heat damage or other causes. 3.3.1 I**nsect-bored kernel** Grains that have been eaten by insects and have injured cotyledons. 3.3.2 **Spotted kernel** Grains with diseased spots on the surface of the kernel, injuring the cotyledons. 3.3.3 **Sprouted kernel** A grain in which the shoots or young roots have broken through the seed coat or have absorbed moisture and have not recovered. 3.3.4 **Moulded kernel** Grains with mouldy surfaces. 3.3.5 **Frost-damaged kernel** Grains with transparent seeds or stiff, dark green cotyledons damaged by freezing. 3.3.6 **Heat-damaged kernel** Grains with discoloured and damaged cotyledons caused by heat.		There is no specific EU legislation that defines terminology and definitions for soybeans.

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
3.4 **Broken kernel** A kernel in which the cotyledons are broken to one quarter or more of the volume of the kernel. 3.5 **impurities** Non-soybean material that passes through the specified sieve layer and remains in the sample after sieving, including the following. 3.5.1 **Passed sieve material** Material passing through a 3.0 mm diameter round hole sieve. 3.5.2 **Inorganic impurities** Soil, gravel, masonry and other inorganic substances 3.5.3 **Organic impurities organic impurity** Soybean grains, grains of different species and other organic substances of no use. 3.6 **Colour, odour colour, odour** The combined colour and odour inherent in a batch of soybeans. 3.7 **Percent of perfect kernels** The mass fraction of intact kernels in a sample. 3.8 **Percentage of damaged kernels** Percentage of damaged kernels by mass of the sample. 3.9 **Per cent of heat-damaged kernel** The mass fraction of heat-damaged kernels in the sample. 3.10 **High-oil soybean** Soybean with a crude fat content of not less than 20.0 %. 3.11 **High protein soybean high-protein soybean** Soybean with a crude protein content of not less than 40.0 %.		

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
4 Classification Soybeans are classified according to the colour of their skins. **4.1 yellow soybean:** Soybean with a yellow seed coat, light yellow, and a yellow-brown, light brown or dark brown umbilicus of not less than 95 per cent of the seeds. **4.2 Green soya beans:** Soya beans with a green seed coat of not less than 95 per cent of the seeds. According to the colour of its cotyledons, it is divided into two types of green-skinned green-kernel soybeans and green-skinned yellow-kernel soybeans. **4.3 Black soybeans:** Soybeans with a black seed coat of not less than 95 per cent of the seeds. According to the colour of its cotyledons, it is divided into two types: black-skinned green-kernel soybeans and black-skinned yellow-kernel soybeans. **4.4 Other soya beans:** Soya beans with a single colour seed coat of brown, brown, russet, etc. and bicoloured soya beans (seed coat of two colours, one of which is brown or black, and which covers more than one-half of the grain surface), etc. **4.5 Mixed soya beans**: Soya beans that do not comply with the provisions of 4.1 to 4.4.		There is no specific EU legislation that defines standards for soybeans, rather it is covered by the general marketing requirements laid down in **Regulation (EU) No 543/2011.**

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation

5 Quality requirements and hygiene requirements
5.1 Quality requirements
5.1.1 Quality indicators for soya beans shall conform to the provisions of Table 1.

Table 1 Soybean quality indicators

Grade	Rate of intact grains／%	Damaged grain rate / %		Impurity content / %	Moisture content/ %	Odour, colour
		Total	Of which: heat damaged granules			
1	≥95.0	≤1.0	≤0.2	≤1.0	≤13.0	Normal
2	≥90.0	≤2.0	≤0.2			
3	≥85.0	≤3.0	≤0.5			
4	≥80.0	≤5.0	≤1.0			
5	≥75.0	≤8.0	≤3.0			

5.1.2 Quality indicators of high-oil soybeans shall conform to the provisions of Table 2.

Table 2 Quality indicators of high-oil soybeans

Grade	Crude fat content (dry basis)/ %	Rate of intact grains ／%	Damaged grain rate / %		Impurity content / %	Moisture content/ %	Odour, colour
			Total	Of which: heat damaged granules			
1	≥22.0	≥85.0	≤3.0	≤0.5	≤1.0	≤13.0	Normal
2	≥21.0						
3	≥20.0						

5.1.3 Quality indicators for high-protein soybeans shall conform to the provisions of Table 3.

Table 3 Quality indicators for high-protein soya beans

Grade	Crude protein content (dry basis)/ %	Rate of intact grains ／%	Damaged grain rate / %		Impurity content / %	Moisture content / %	Odour, colour
			Tot;	Of which: heat damaged granules			
1	≥44.0	≥90.0	≤2.0	≤0.2	≤1.0	≤13.0	Normal
2	≥42.0						
3	≥40.0						

Regulation (EU) No 543/2011, Annex I, Part A
General Marketing Standard for fruit and vegetables, after preparation and packaging
1. **Minimum requirements**
Subject to the tolerances allowed, the products shall be:
— intact,
— sound; products affected by rotting or deterioration such as to make them unfit for consumption are excluded,
— clean, practically free of any visible foreign matter,
— practically free from pests,
— free from damage caused by pests affecting the flesh,
— free of abnormal external moisture,
— free of any foreign smell and/or taste.
The condition of the products must be such as to enable them:
— to withstand transportation and handling,
— to arrive in satisfactory condition at the place of destination.

2. **Minimum maturity requirements**
The products must be sufficiently developed, but not overdeveloped, and fruit must display satisfactory ripeness and must not be overripe. The development and state of maturity of the products must be such as to enable them to continue their ripening process and to reach a satisfactory degree of ripeness.

Fruit and vegetables may only be marketed in the EU if they comply with the marketing standards set out in Regulation 543/2011.

National authorities can exempt products (e.g. misshapen, under-sized) from specific marketing standards if they are labelled "products intended for processing" or "animal feed».

There is no specific EU legislation that defines standards for soybeans, rather it is covered by the general marketing requirements laid down in **Regulation (EU) No 543/2011.**

However, where the holder is able to show that the products are in conformity with any applicable standards adopted by the United Nations Economic Commission for Europe (UNECE), they shall be considered as conforming to the general marketing standard.

There is a UNECE standard FFV-06 concerning the marketing and commercial quality control of beans, however, this only to applies to beans of varieties (cultivars) grown from *Phaseolus vulgaris L*. and *Phaseolus coccineus L*. to be supplied fresh to the consumer, beans for shelling or industrial processing being excluded. It does not apply to *Glycine max* (Soybean).

Therefore there do not appear to be any equivalent detailed quality requirements in EU legislation and the general marketing standard would apply.

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
5.2 Hygiene standards 5.2.1 Soybeans for food according to GB 2715, GB 19641 and relevant national regulations. 5.2.2 Soybean for feed according to GB 13078 and relevant national regulations. 5.2.3 Soybeans for other uses according to the relevant national standards and regulations. 5.2.4 Plant quarantine shall be carried out in accordance with the relevant national standards and regulations.	3. **Tolerance** A tolerance of 10 % by number or weight of product not satisfying the minimum quality requirements shall be permitted in each lot. Within this tolerance not more than 2 per cent in total may consist of produce affected by decay. 4. **Marking** (Refer to section 3.3 below for requirements)	Regulation 543/2011, Annex I, Part A, 3. Sets a tolerance of 10% of product not meeting minimum quality requirements. In the Chinese Standard Grade 1 and Grade 2 Soybean would meet this requirement for intact grains (Table 1). Grade 3, 4 & 5 Soybeans have a higher allowance for non intact grains. The allowance for intact grains for high oil soybeans would not meet this tolerance requirement (Table 2). While the allowance for intact grains for high-protein soyabeans would meet this tolerance (Table 3). Other cross-referenced standards for hygiene would need to be reviewed for equivalence.
6 Inspection methods 6.1 Cuttings and sub-samples: to be carried out in accordance with the requirements of GB5491. 6.2 Rate of intact grains: determined by the method specified in Appendix A. 6.3 Damaged grain rate: determined by the method specified in Appendix A. 6.4 heat-damaged grains: determined by the method specified in Appendix A. 6.5 Impurities, imperfect grains: determined by the method specified in GB/T5494. 6.6 Moisture: determined by the method specified in GB / T 5497. 6.7 Isochromatic grains: According to GB / T 5493 method of determination. 6.8 Colour and odour: Determination by the method specified in GB/T 5492. 6.9 Crude protein content: Determination by the method specified in GB/T 5511. 6.10 Crude fat content: determined by the method specified in GB / T 5512.		There is no specific EU legislation that defines standards nor do there appear to be specific test methods for soybeans.

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
7 Test rules 7.1 The general rules of inspection according to GB / T 5490 implementation. 7.2 The test batch for the same type, the same origin, the same harvest year, the same transport unit, the same storage unit of soybeans. 7.3 Soybeans according to the rate of intact grains set level, 3 levels for the medium. The rate of intact grains is lower than the minimum grade specified, shall be treated as an extra grade. Other indicators shall be in accordance with the relevant national regulations. 7.4 High oil soya beans shall be graded according to their crude fat content, with grade 2 being medium. Soybeans with a crude fat content lower than that specified in the minimum grade shall not be treated as high oil soybeans. Other indicators shall be in accordance with the relevant national regulations. 7.5 High protein soybeans shall be graded according to crude protein content, with 2nd grade being medium. Soybeans with a crude protein content lower than that specified in the lowest grade shall not be regarded as high protein soybeans. Other indicators shall be in accordance with the relevant national regulations.		There is no specific EU legislation that defines standards nor do there appear to be specific test methods for soybeans.
8 Labelling and identification In addition to the provisions of GB7718, the following provisions should be met. 8.1 Where the label "soybean" products should comply with this standard. 8.2 The name, type, grade, origin, harvest year and month of the product should be indicated on the packaging or in the accompanying documentation. 8.3 Genetically modified soya beans shall be labelled in accordance with the relevant national regulations	**Regulation (EU) No 543/2011**, Annex I, Part A General Marketing Standard for fruit and vegetables, after preparation and packaging 4. **Marking** Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside. A. *Identification* Name and physical address of the packer and/or the dispatcher (for example: street/city/region/postal code and, if different from the country of origin, the country).	Cross-referenced standard GB7718 would need to be reviewed to determine if EU identification requirements are equivalent. Origin is required by both the Chinese standard and EU legislation. Other requirements detailed in the Chinese Standard i.e. type, grade, harvest year and month of the product are not specifically called out in the EU General Marketing Standard. The name of the product would be required under the general product information (labelling) requirements laid down in **Regulation (EU)**

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
	This mention may be replaced: ○ For all packages with the exception of pre-packages, by the officially issued or accepted code mark representing the packer and/or the dispatcher, indicated in close connection with the reference «Packer and/or Dispatcher» (or equivalent abbreviations). The code mark shall be preceded by the ISO 3166 (alpha) country/area code of the recognising country, if not the country of origin; ○ For pre-packages only, by the name and the address of a seller established within the Union indicated in close connection with the mention «Packed for:» or an equivalent mention. In this case, the labelling shall also include a code representing the packer and/or the dispatcher. The seller shall give all information deemed necessary by the inspection body as to the meaning of this code. B. *Origin* Full name of the country of origin. For products originating in a Member State this shall be in the language of the country of origin or any other language understandable by the consumers of the country of destination. For other products, this shall be in any language understandable by the consumers of the country of destination. Packages need not to bear the particulars mentioned in the first subparagraph, when they contain sales packages, clearly visible from the outside, and all bearing these particulars. These packages shall be free from any indications such as could mislead. When these packages are palletised, the particulars shall be given on a notice placed in an obvious position on at least two sides of the pallet.	**1169/2011** on the provision of food information to consumers.

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
9 Packaging, storage and transport **9.1 Packaging** Packaging should use packaging materials or containers that meet hygienic requirements and should also be clean, firm, free from damage, with tight, strong seams and should not spill. It should not bring contamination or abnormal odour. **9.2 Storage** It should be stored in a clean, dry, rain-proof, moisture-proof, insect-proof, rodent-proof, odourless warehouse and should not be mixed with toxic or hazardous substances or substances with high moisture content. **9.3 Transport** Transport should be carried out in means and containers that meet hygienic requirements and care should be taken to prevent rain and contamination during transport.	**Regulation (EC) No 852/2004, Annex II, Chapter X** **Provisions applicable to the wrapping and packaging of foodstuffs** 1. Material used for wrapping and packaging are not to be a source of contamination. 2. Wrapping materials are to be stored in such a manner that they are not exposed to a risk of contamination. 3. Wrapping and packaging operations are to be carried out so as to avoid contamination of the products. Where appropriate and in particular in the case of cans and glass jars, the integrity of the container's construction and its cleanliness is to be assured. 4. Wrapping and packaging material re-used for foodstuffs is to be easy to clean and, where necessary, to disinfect. **Regulation (EC) No 852/2004,** Annex I, Part A, (Annex I applies to transport, storage and handling at the place of primary production) 5. Food business operators producing or harvesting plant products are to take adequate measures, as appropriate: (a) to keep clean and, where necessary after cleaning, to disinfect, in an appropriate manner, facilities, equipment, containers, crates, vehicles and vessels; (b) to ensure, where necessary, hygienic production, transport and storage conditions for, and the cleanliness of, plant products; **Regulation (EC) No 852/2004,** Annex I, Part A, 5a, and Annex II, Chapter IX, 9: (Annex II applies to all food business except where Annex I applies)	It would appear that 9.2 Storage refers to packaging however, this should be confirmed. The Chinese Standard and European Legislation include provisions for packaging, storage and transport, which pursue the same hygienic objectives, however EU legislation provides more detail on how this shall be achieved. The Chinese standard does require measures to prevent contamination, however, it does not explicitly highlight the need to prevent contamination by allergens.

GB1352-2009 Soybean	EU legislation	Implementing rules and comparative evaluation
	Equipment, conveyances and/or containers used for the harvesting, transport or storage of substances or products causing allergies or intolerances shall not be used for the harvesting, transport or storage of any food not containing that substance or product, unless the equipment, conveyances and/or containers have been cleaned and checked at least for the absence of any visible debris of that substance or product. Regulation (EC) No 852/2004, Annex II, Chapter IV 1. Conveyances and/or containers used for transporting foodstuffs are to be kept clean and maintained in good repair and condition to protect foodstuffs from contamination and are, where necessary, to be designed and constructed to permit adequate cleaning and/or disinfection.	

2.4 GB 16325-2005 HYGIENIC STANDARD FOR DRIED FRUITS

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
Scope This standard specifies the hygienic indicators and test methods for dried fruit foods and the hygienic requirements for food additives, production and processing, packaging, labelling, storage and transportation. This standard applies to dried fruit food made from fresh fruit (such as cinnamon, lychee, grapes, persimmons, etc.) as raw material and processed by dehydration processes such as drying and drying.	In the European Union (EU), there are various regulations and standards that address the safety and quality of food products, including dried fruits (so, there are no specific hygiene requirements for Dried Fruits only). See list below.	It should be noted that in the EU there is no one single Standards to match the Chinese National Standards for Dried Fruit. The combination of EU Regulations and standards collectively addresses the safety, quality, and hygiene of dried fruits, similar to the objectives outlined in the Chinese National Standard GB 16325-2005.

General Food Safety Regulations:

Dried fruits must comply with general food safety regulations, including Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs. This regulation covers hygiene, production practices, and facilities.

Good Manufacturing Practices (GMP) and HACCP:

The principles of GMP and hazard analysis and critical control points (HACCP) are applied throughout the food industry, including dried fruit production, to ensure quality and safety. Regulation (EC) No 852/2004 on the hygiene of foodstuffs requires all food businesses to implement a HACCP system.

Official Controls:

Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, amending Regulations (EC) No 999/2001, (EC) No 396/2005, (EC) No 1069/2009, (EC) No 1107/2009, (EU) No 1151/2012, (EU) No 652/2014, (EU) 2016/429 and (EU) 2016/2031 of the European Parliament and of the Council, Council Regulations (EC) No 1/2005 and (EC) No 1099/2009 and Council Directives 98/58/EC, 1999/74/EC, 2007/43/EC, 2008/119/EC and 2008/120/EC, and repealing Regulations (EC) No 854/2004 and (EC) No 882/2004 of the European Parliament and of the Council, Council Directives 89/608/EEC, 89/662/EEC, 90/425/EEC, 91/496/EEC, 96/23/EC, 96/93/EC and 97/78/EC and Council Decision 92/438/EEC (Official Controls Regulation) (OJ L-95 07/04/2017) (CELEX 32017R0625)

Contaminant Levels for Dried Fruits: The EU sets maximum levels for contaminants, including mycotoxins and heavy metals (this is applicable for Dry Fruit).

1. Council Regulation (EEC) No 315/93 of 8 February 1993 laying down Community procedures for contaminants in food (OJ L-37 13/02/1993) (CELEX 31993R0315)
2. Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006 (OJ L-119 05/05/2023) (CELEX 32023R0915)
3. Commission Regulation (EC) No 1881/2006 of 19 December 2006 setting maximum levels for certain contaminants in foodstuffs (OJ L-364 20/12/2006) (CELEX 32006R1881)
4. Commission Implementing Regulation (EU) 2022/932 of 9 June 2022 on uniform practical arrangements for the performance of official controls as regards contaminants in food, on specific additional content of multi-annual national control plans and specific additional arrangements for their preparation (OJ L-162 17/06/2022) (CELEX 32022R0932)

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation

5. Council Regulation (Euratom) 2016/52 of 15 January 2016 laying down maximum permitted levels of radioactive contamination of food and feed following a nuclear accident or any other case of radiological emergency, and repealing Regulation (Euratom) No 3954/87 and Commission Regulations (Euratom) No 944/89 and (Euratom) No 770/90 (OJ L-13 20/01/2016) (CELEX 32016R0052)

Microbiological Criteria:

Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs does apply to dried fruits. This Regulation establishes microbiological criteria that cover a wide range of foods, including dried fruits. The criteria are designed to ensure the safety and quality of food products, including those that are dried. Microbiological criteria in this context refer to specific standards for microorganisms (bacteria, yeasts, molds, etc.) that are acceptable in food products. These criteria are based on the principles of Hazard Analysis and Critical Control Points (HACCP), which is a systematic approach to identifying and controlling potential hazards in food production processes. When it comes to dried fruits, the regulation sets standards for allowable levels of microorganisms that can be present in the product. These standards are established to ensure that dried fruits are safe for consumption and free from excessive microbial contamination that could pose a health risk to consumers.

Labelling and Packaging:

The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This regulation ensures accurate information about ingredients, allergens, nutritional values, and origin. Also relevant Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP.

Pesticide Residues:

Compliance with maximum residue levels for pesticides is required under Regulation (EC) No 396/2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin.

Food Additives:

The use of food additives in dried fruits is governed by Regulation (EC) No 1331/2008 on food additives. This regulation establishes permitted additives and their maximum usage levels.

It should be also noted that vitamins and minerals can be added to dried fruits. Fortification, the process of adding essential vitamins and minerals to food products, is a common practice to enhance the nutritional value of foods, including dried fruits. The addition of vitamins and minerals to dried fruits can help address potential nutrient deficiencies and provide consumers with a more nutritious product. Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods, OJ L 404, 30.12.2006, p. 26–38.

For imported Dried Fruit:

Traceability and Documentation:

Importers need to maintain accurate records and documentation of imported dried fruits, including origin, supplier information, and relevant certificates.

Customs Procedures:

Proper classification, declaration of value, and adherence to tariff codes are essential for customs procedures and smooth importation.

Organic Dried Fruit or Dried Fruit with Protected Geographical Indications denominations – special regulation in the EU (yet, all above mentioned hygiene and quality requirements are applicable too).

<table>
<tr><th>GB 16325-2005 Hygienic standard for dried fruits</th><th>EU legislation</th><th>Implementing rules and comparative evaluation</th></tr>
<tr>
<td>

3 Requirements for indicators

3.1 Requirements for raw materials

They shall comply with the corresponding standards and relevant regulations.

3.2 Sensory indicators

Free from insects, mould and odour.

3.3 Physical and chemical indicators

Physico-chemical indicators shall conform to the provisions of Table 1.

Table 1 Physico-chemical indicators

<table>
<tr><th rowspan="2">Item</th><th colspan="4">Indicator Standard</th></tr>
<tr><th>Cinnamon</th><th>Lychee</th><th>Sultanas</th><th>Persimmon cake</th></tr>
<tr><td>Moisture／（g/100g） ≤</td><td>25</td><td>25</td><td>20</td><td>35</td></tr>
<tr><td>Total acid／（g/100g） ≤</td><td>1.5</td><td>1.5</td><td>2.5</td><td>6</td></tr>
</table>

3.4 Microbiological indicators

Microbiological indicators shall comply with the provisions of Table 2.

Table 2 Microbiological indicators

<table>
<tr><th rowspan="2">Item</th><th colspan="2">Indicator Standard</th></tr>
<tr><th>Sultanas</th><th>Persimmon cake</th></tr>
<tr><td>Pathogenic bacteria (Salmonella, Shigella, Staphylococcus aureus)</td><td>Not detectable</td><td>Not detectable</td></tr>
</table>

</td>
<td>

The requirement for raw materials to comply with corresponding standards and relevant regulations aligns with the general principles of food safety and quality set out in EU regulations. In the EU, dried fruits must meet standards related to hygiene, contaminants, additives, and labelling. These standards are governed by various regulations, including Regulation (EC) No **852/2004 on the Hygiene of Foodstuffs**, Regulation (EU) No **1169/2011 on food information to consumers**, and others specific to contaminants and additives.

The requirement for Dried Fruits to be free from insects, mold, and odor is in line with the expectations of consumer safety and product quality in the EU. While specific sensory requirements might not be explicitly listed in EU Regulations, they are implicit in the overall requirement that food products, including dried fruits, must be free from defects, contamination, and any characteristics that could pose a risk to consumers. These standards are governed by EU

Regulation (EC) No 852/2004 and others specific to contaminants and additives.

The requirement for **physico-chemical indicators** to conform to the provisions of Table 1 corresponds to the need for dried fruits to meet established maximum levels for contaminants, mycotoxins, heavy metals, and other physical and chemical attributes. These standards are defined in various EU Regulations, including Regulation Commission **Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food** and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues.

In relation to Microbiological Criteria - Commission Regulation (EC) No **2073/2005 on microbiological criteria for foodstuffs**.

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Taking into account difference in approaches, certainly there might not be an exact match of language between provided requirements of the Chinese National Standard and the EU Regulations (which have much more comprehensive and detailed horizontal regulation covering all aspects of physical and chemical indicators), the overall goals of ensuring food safety, quality, and consumer protection are consistent.

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</tr>
</table>

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
4 Food additives 4.1 The quality of food additives shall comply with the corresponding standards and relevant regulations. 4.2 The variety of food additives and the amount used should comply with the provisions of GB2760.	**Food Additives:** The use of food additives in dried fruits is governed by Regulation (EC) No 1331/2008 on food additives. This regulation establishes permitted additives and their maximum usage levels. It should be also noted that vitamins and minerals can be added to dried fruits. Fortification, the process of adding essential vitamins and minerals to food products, is a common practice to enhance the nutritional value of foods, including dried fruits. The addition of vitamins and minerals to dried fruits can help address potential nutrient deficiencies and provide consumers with a more nutritious product. Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods, OJ L 404, 30.12.2006, p. 26–38.	This appears to be outside the scope of the Chinese Standard, as general reference is made to corresponding health standards and regulations.
5 Food production and processing processes Should comply with the provisions of GB 14881.	**Good Manufacturing Practices (GMP) and HACCP:** The principles of GMP and hazard analysis and critical control points (HACCP) are applied throughout the food industry, including dried fruit production, to ensure quality and safety. Regulation (EC) No 852/2004 on the hygiene of foodstuffs requires all food businesses to implement a HACCP system. **Official Controls:** Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, amending Regulations (EC) No 999/2001, (EC) No 396/2005, (EC) No 1069/2009, (EC) No 1107/2009, (EU) No 1151/2012, (EU) No 652/2014, (EU) 2016/429 and (EU) 2016/2031 of the European Parliament and of the Council, Council Regulations (EC) No 1/2005 and (EC) No 1099/2009 and Council Directives 98/58/EC, 1999/74/EC, 2007/43/EC, 2008/119/EC and 2008/120/EC, and repealing Regulations (EC) No 854/2004 and (EC) No 882/2004 of the European Parliament and of the Council, Council Directives 89/608/EEC, 89/662/EEC, 90/425/EEC, 91/496/EEC, 96/23/EC, 96/93/EC and 97/78/EC and Council Decision 92/438/EEC (Official Controls Regulation) (OJ L-95 07/04/2017)	This appears to be outside the scope of the Chinese Standard, as general reference is made to corresponding health standards and regulations.

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
6 Packaging hygiene requirements Packaging containers and materials should comply with the corresponding health standards and relevant regulations.	**Packaging:** Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP. In relation to packaging used for dried fruit, the following can be outlined: **General Safety Requirements in relation to packaging:** Packaging materials and articles intended for food contact must not transfer their constituents to the food in quantities that could endanger human health or bring about an unacceptable change in the composition of the food. **Compatibility:** Packaging materials should not interact with dried fruit or any food in a way that would compromise the safety or quality of the product. This includes ensuring that the packaging material does not affect the taste, aroma, appearance, or nutritional content of the dried fruit. **Migration Limits:** The Regulation sets specific migration limits for certain substances that could migrate from the packaging material into the food. These limits help ensure that potentially harmful substances do not exceed safe levels in the dried fruit. **Good Manufacturing Practices (GMP):** Manufacturers of food contact materials, including packaging, should follow good manufacturing practices to prevent contamination and ensure the safety of the packaged dried fruit. **Specific Regulations for Certain Materials:** The regulation may have specific provisions for different types of packaging materials such as plastics, glass, ceramics, and more. These provisions address material-specific requirements to ensure food safety. **Labelling of Food Contact Materials:** Packaging materials intended for food contact should be labelled appropriately to indicate their intended use and compliance with relevant regulations.	This appears to be outside the scope of the Chinese Standard, as general reference is made to corresponding health standards and regulations.

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
	Declaration of Compliance: Manufacturers and suppliers of packaging materials often provide a declaration of compliance with relevant regulations, indicating that their materials meet the safety requirements for food contact. It's important to note that the regulation establishes a framework, and specific packaging requirements can also be addressed in national regulations, industry standards, and guidelines. Food businesses should ensure that the packaging used for dried fruit complies with all relevant regulations, including Regulation (EC) No 1935/2004, to ensure the safety of consumers and the integrity of the product. Regulations and requirements may evolve, so it's advisable to consult the most current version of the regulation and other relevant sources for the latest information.	
7 Marking requirements Identification of shaped packaging according to the provisions of GB7718.	**Labelling:** The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This Regulation ensures accurate information about ingredients, allergens, nutritional values, and origin. Here are the general labelling requirements for all food products, but which will apply to dried fruit in the EU: **Name of the Food** - The common name of the dried fruit must be clearly indicated on the label. For example, "Dried Apricots," "Raisins," etc. **List of Ingredients** - All ingredients used in the dried fruit product, including any additives or processing aids, must be listed in descending order of weight. Allergen Information: If the dried fruit contains any of the 14 allergens listed in Annex II of Regulation (EU) No 1169/2011 (such as nuts, soy, gluten, etc.), these allergens must be highlighted in the ingredients list. Additionally, the presence of allergens must be indicated in a separate allergen statement. **Net Quantity**: The quantity of the dried fruit product must be stated in terms of weight (e.g., grams or kilograms).	It appears that the Chinese Hygienic Standard for Dried Fruit does not contain provisions in relation to labelling of Dried Fruit. It should be noted that **labelling of food is an important aspect of food safety and hygiene requirements.** While labelling itself may not directly impact the physical safety of the food product, accurate and transparent labelling is essential for ensuring the safety of consumers and preventing risks associated with allergens, nutritional content, and other factors. In the EU Food Safety concept and legal regulation labelling is closely linked to hygiene requirements due to the following aspects: 1. **Allergen Information:** Accurate labelling is crucial for individuals with allergies or sensitivities to certain ingredients. Proper allergen labelling helps consumers avoid products that could trigger allergic reactions, preventing potential health risks. **Nutritional Information:** Clear and accurate nutritional labelling provides consumers with information about the content of nutrients, calories, and other components in the food. This information helps individuals make informed dietary choices and manage their health.

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
	Date of Minimum Durability or Use By Date: Dried fruit products must have either a "best before" date or a "use by" date, depending on the nature of the product. The date must be clear and easy to read. **Storage Instructions:** Storage conditions for the dried fruit, such as "Store in a cool, dry place," should be provided to ensure the product's quality and safety. **Country of Origin or Place of Provenance:** The country of origin or place of provenance of the dried fruit must be indicated on the label. This is important for transparency and consumer choice. **Instructions for Use:** If there are specific instructions for using or preparing the dried fruit, they should be provided on the label. **Nutrition Declaration:** The nutrition information per 100g (or 100ml) of the dried fruit product must be provided, including energy value, fat, saturated fat, carbohydrates, sugars, protein, and salt. **Additional Information:** Additional information, for example, any claims related to the product's characteristics (e.g., "organic," "gluten-free"), must comply with EU Regulations and not be misleading. Specific product claims, nutritional information, and other requirements might apply based on the characteristics of the dried fruit and the nature of the product. **Special rules for dried fruit - PDOs and PGIs in the EU –** examples **- Sultana from Malatya (PDO):** Sultana grapes grown in the Malatya region of Turkey are known for producing high-quality raisins. The "Sultana from Malatya" PDO ensures that raisins produced in this region adhere to specific production methods and quality standards. **Agen Prune (PDO):** Agen prunes, also known as "pruneaux d'Agen," are dried plums from the Agen region in France. The PDO guarantees that these prunes are made from specific plum varieties and are dried in a traditional manner.	**Traceability:** Proper labelling helps establish the traceability of food products. In case of safety concerns or recalls, accurate labelling ensures that the source and distribution of the product can be easily tracked, enhancing food safety management. **Ingredient List** (applicable for mixtures of dried fruit): A comprehensive ingredient list allows consumers to make informed decisions based on dietary restrictions, ethical considerations, and personal preferences. It also helps individuals avoid ingredients they might be sensitive to. **Country of Origin:** Labelling the country of origin or place of provenance provides consumers with information about the origin of the product. This information can impact consumers' choices and provide transparency about the product's sourcing. **Instructions for Use and Storage:** Proper labelling includes instructions for the appropriate use and storage of the product. This information ensures that consumers handle and prepare the food correctly, reducing the risk of contamination or spoilage. **Preventing Fraud (including IP protection):** Accurate labelling prevents food fraud by ensuring that consumers receive what they expect based on the label. Misleading labels can lead to consumer dissatisfaction and potential legal issues. **Consumer Information:** Clear and truthful labelling builds consumer trust by providing accurate information about the product's characteristics, quality, and safety. In summary, labelling is an integral part of food safety and hygiene requirements and should be considered as part of the Hygiene Requirements for Dried Fruit. So, lacking labelling requirements for Dried Fruit would undermine the consumer protection, not having access to accurate and relevant information about the food they are purchasing and consuming, helping them make informed choices and reducing the risk of health issues related to allergens, nutritional content, and improper handling.
8 Storage and transport	Storage and transport of all food products (including dried fruits) are regulated in the EU under **Regulation No 852/2004 on the Hygiene of Foodstuffs**. This Regulation establishes general hygiene requirements for food businesses,	It can be concluded that the Chinese requirements for storage and transport of finished products are rather brief and may not be sufficient, yet they emphasize the importance of maintaining

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
8.1 Storage The finished product should be stored in a dry, well-ventilated place. They should not be stored with toxic, harmful, odorous, volatile or corrosive substances. **8.2 Transport** When transporting the product, avoid sunlight and rain. The product shall not be transported in mixed packages with toxic, harmful, odorous or product quality-impairing substances.	including those involved in the storage and transportation of food products, to ensure the safety and quality of the food throughout the supply chain. Regulation 852/2004 addresses the storage and transport of dried fruits, in particular: 1 **General Hygiene Requirements:** The Regulation sets out fundamental principles for food hygiene, including cleanliness, maintenance of premises and equipment, personal hygiene, and protection against contamination. These principles apply to all stages of the food supply chain, including storage and transportation. 2 **Maintenance of Premises and Equipment**: Food storage and transportation facilities must be designed, constructed, and maintained to prevent contamination, deterioration, and the growth of harmful microorganisms. Equipment used for storage and transportation should be cleaned, sanitized, and properly maintained. 3 **Temperature Control:** Dried fruits, like other perishable food items, must be stored and transported at appropriate temperatures to prevent spoilage and ensure food safety. Temperature control is critical to prevent the growth of pathogens and maintain product quality for dried fruit. 4 **Separation of Products:** The Regulation requires that different types of food (this is critical for dried fruits), are separated to prevent cross-contamination. This includes separating raw and processed foods, allergenic and non-allergenic foods, and foods with different storage requirements. 5 **Protection from Contamination:** Dried fruits should be stored and transported in a way that prevents contamination from pests, chemicals, and other sources. Packaging materials should be suitable for food contact and protect against contamination. 6 **Traceability:** The regulation emphasizes traceability, requiring food businesses to maintain systems that allow for the identification of the origin and destination of food products. This is crucial for food safety and in the event of recalls. 7 **Personal Hygiene:** Personnel involved in the storage and transportation of dried fruits must adhere to strict personal hygiene practices to prevent contamination of the food products. 8 **Documentation:** Records related to the storage and transportation of food, including dried fruits, should be maintained to demonstrate compliance with	proper storage conditions, protecting products during transportation, and preventing contamination. Potential deficiencies of the Chinese Standard include inadequate storage conditions, lack of protection during transportation (temperature control), risk of contamination from harmful substances, and potential compromise of product quality. These deficiencies could affect the safety, quality, and consumer acceptance of the dried fruits. Particular attention to temperature control and separation of products are essential considerations for the storage of dried fruits due to their susceptibility to spoilage, contamination, and potential health risks. Here's why these aspects are crucial: **Temperature Control:** Dried fruits may seem less prone to spoilage due to their low moisture content. However, they can still be affected by changes in temperature. Here's why temperature control is important: **Preventing Microbial Growth:** Even though dried fruits have low moisture, they are not entirely free of moisture, therefore, if stored at warm temperatures, the residual moisture content can support the growth of molds, yeasts, and bacteria, leading to spoilage and potential health risks. **Pathogen Prevention:** While drying reduces water activity, it might not eliminate all pathogens. Inadequate temperature control could allow pathogens to survive and multiply, posing health risks to consumers. **Maintaining Quality:** Improper temperatures can cause dried fruits to become too dry and brittle or overly sticky and moist. Both extremes affect texture, taste, and appearance, leading to poor quality products.

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
	hygiene requirements. This includes records of temperature monitoring, cleaning schedules, and transport conditions.	**Separation of Products** (important – not only toxic, harmful, odorous, volatile or corrosive substances, as mentioned by the Chinese Standard): proper separation of different types of dried fruits, is critical for several reasons: 1. **Cross-Contamination:** Dried fruits can be contaminated by other foods that may carry allergens, pathogens, or spoilage microorganisms. If dried fruits come into contact with allergenic or contaminated products, it can pose serious health risks to consumers. 2. **Preservation of Quality:** Dried fruits can easily absorb odors and flavors from adjacent products. If stored near pungent or strong-smelling items, the dried fruits' taste and aroma can be altered, affecting their quality and consumer acceptability. The Chinese Standard does not mention separation of allergenic and non-allergenic foods aligns with regulatory requirements to prevent allergen cross-contact, as allergen information must be accurately labelled.
9 Test methods **9.1 Moisture content** Determination according to the method specified in GB/T 5009.3. **9.2 Total acid** Determined by the method specified in GB/T 5009.187. **9.3 Microbiological indicators** To be tested according to the method specified in GB/T 4789.32.	Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs does include references to test methods for various microorganisms. So, this is relevant EU Regulation. However, since the Regulation covers a wide range of food products, including dried fruits, the specific test methods for dried fruits are not listed in the Regulation itself. Instead, the Regulation often refers to general or widely accepted international methods for microbiological analysis. To determine the appropriate test methods for analyzing microbiological criteria in dried fruits according to Regulation (EC) No 2073/2005, variety of methods may cover parameters such as total viable count, acid, specific pathogens, yeasts, molds, and other relevant microorganisms.	For dried fruits, the EU Regulation does not provide specific test methods tailored or required for dried fruit products but rather refers to general methods applicable to all types of food products.

GB 16325-2005 Hygienic standard for dried fruits	EU legislation	Implementing rules and comparative evaluation
	Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods, OJ L 404, 30.12.2006, p. 26–38.	It should be also noted that vitamins and minerals can be added to dried fruits. Fortification, the process of adding essential vitamins and minerals to food products, is a common practice to enhance the nutritional value of foods, including dried fruits. The addition of vitamins and minerals to dried fruits can help address potential nutrient deficiencies and provide consumers with a more nutritious product. This is not mentioned by the Chinese Hygiene Standard for Dried Fruit.

2.5 ADDITIONAL CHINESE STANDARDS COVERING DRIED FRUITS PRODUCTS

Chinese National standard GB 2760	EU Regulation EC No
Process fruit: Max Level g/kg **Maltitol and maltitol syrup**: GMP **Calcium lactate**: GMP **Phytic acid (inositol hexaphosphoric acid), sodium phytate**: 0.2	Maltitol and maltitol syrup are generally subject to GMPs as part of the broader regulatory framework governing food safety and quality in the EU. Similarly, calcium lactate is subject to GMPs as part of the general requirements for the production and handling of food ingredients and additives in the EU. **Good Manufacturing Practices (GMPs)** in the EU primarily apply to the manufacturing, processing, and handling of various products, including food additives and ingredients. These practices are essential to ensure the safety, quality, and consistency of products used in the food industry. However, GMPs themselves are typically not explicitly specified for individual food additives or ingredients in EU regulations. Instead, they are overarching principles and guidelines that apply to food manufacturers and processors. Phytic acid and sodium phytate are substances used as food additives for their chelating properties, primarily in food processing. In this case, a specific MRL of 0.2 g/kg is mentioned for sodium phytate. This MRL indicates the maximum allowable concentration of sodium phytate in certain food products. The MRL can be found in relevant EU Regulation (EC) No 1333/2008 on food additives and its amendments.

Chinese National standard GB 14881-2013	EU Regulation EC No
Chinese Food Safety Standards applicable to all food products **National standard 14881-2013** specifies basic requirements and management rules for locations, facilities and personnel of material purchasing, processing, packaging, storage and transportation in the process of food production.	In EU legislation the implementation of HACCP-based self-controls is mandatory for all food business operators (except primary producers), while in the National Standard GB 14881-2013 as well as in National Standard GB 12694-2016 (point 11.1.2) it is “encouraged” to be adopted (i.e. not mandatory). According to EU legislation inspection activities shall be done by both the food business operator and by the official food inspection agencies.

2.6 GB 14891.3-1997 HYGIENIC STANDARD FOR IRRADIATED DRIED NUTS AND PRESERVED FRUITS

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation
Scope This standard specifies the technical requirements and test methods for irradiated dried and preserved fruit foods. This standard applies to peanuts, cinnamon, hollow lotus, walnuts, raw almonds, red dates, dried peaches, dried apricots, dried hawthorn and other preserved foods irradiated by Y-rays or electron beams.	**Directive 1999/2/EC** on the irradiation of foods and food ingredients **Directive 1999/3/EC** of the European Parliament and of the Council of 22 February 1999 on the establishment of a Community list of foods and food ingredients treated with ionising radiation (OJ L 66, 13.3.1999, pp. 24-25) **Regulation (EU) No 1169/2011** of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 (OJ L 304, 22.11.2011, pp. 18-63) At the EU level only dried aromatic herbs, spices and vegetable seasonings are authorized for irradiation (Annex I to Directive 1999/3/EC, however, there is a list of Member States' authorisations of food and food ingredients which may be treated with ionising radiation (According to Article 4(6) of Directive 1999/2/EC of the European Parliament and of the Council on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation) (This text cancels and replaces the text published in Official Journal C 112 of 12 May 2006, p. 6) - OJ C 283, 24.11.2009, p. 5–5	It should be noted that in the EU there are 2 lists of foods and food ingredients treated with ionising radiation: 1) EU - Directive 1999/3/EC of the European Parliament and of the Council of 22 February 1999 and 2) National - List of Member States' authorisations of food and food ingredients which may be treated with ionising radiation - (According to Article 4(6) of Directive 1999/2/EC of the European Parliament and of the Council on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation) - 2009/C 283/02 At the national level the following is authorised: • Dried aromatic herbs, spices, and vegetable seasonings • Fruit and vegetables, including root vegetables • Cereals, cereal flakes, and rice flour • Spices, condiments, and flavourings • Fish, shellfish, and crustaceans • Fresh meats, poultry, and frog legs • Raw milk camembert • Gum Arabic, casein / caseinates, egg white, and blood products The Directive also specifies the doses of radiation that can be used to irradiate each food. The doses are based on scientific evidence and are considered to be safe for human consumption. Directive 1999/2/EC does not apply to: - foods exposed to ionising radiation from measuring or inspection devices, within specified limits; - foods which are prepared for patients requiring sterile diets under medical supervision.

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation
		As to comparison of scopes of the Chinese Standard and the EU Regulations, it should be noted that the Chinese standard just refers to list of products (however, not a closed one as there is a reference covering "and other preserved foods"). It applies specifically to a range of preserved foods, including peanuts, cinnamon, hollow lotus, walnuts, raw almonds, red dates, dried peaches, dried apricots, dried hawthorn, and others. It provides technical requirements and test methods for irradiated dried and preserved fruit foods using Y-rays or electron beams. Directive 1999/3/EC applies to the treatment of foods with ionising radiation. However, it does not refer to a specific list of foods covered (only in the Annex such list can be found – expressly stating what products can be treated). This Directive generally covers the authorization, labelling, and conditions for the use of ionising radiation for food treatment. In addition, according to Article 4(6) of Directive 1999/2/EC, each Member State maintains a list of authorized food and food ingredients that can be treated with ionising radiation. This list includes foods that have been evaluated and authorized by individual Member States for irradiation.
3 Technical requirements **3.1 Irradiation dose and irradiation requirements** Dose limit: the dried fruit is irradiated by 6Co or 137CY rays or electron beam generated by electron accelerator below 10 MeV, and the absorbed dose ranges from 0.4 to 1.0 kGy according to different varieties. Irradiation requirements: uniform irradiation, accurate dose, the inhomogeneity of its absorbed dose ≤ 2.	Directive 1999/2/EC on the irradiation of foods and food ingredients provides conditions for treatment, under which ionising radiation treatment can be applied. These conditions include ensuring that the treatment is conducted within appropriate dose limits and that it does not compromise the safety and nutritional quality of the treated foods.	Directive 1999/2/EC contains the technical requirements for the irradiation of foods and food ingredients in the European Union. However, it also deals with • **Authorization and Notification:** 9 The Directive requires that any food business operator intending to irradiate foods must obtain prior authorization from the competent authority of their Member State. 10 The competent authority may grant authorization only if the food or food ingredient has been approved for irradiation and if the operator complies with the specific conditions and restrictions set out in the directive.

<table>
<tr><th>GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits</th><th>EU legislation</th><th>Implementing rules and comparative evaluation</th></tr>
<tr>
<td>3.2 Sensory indicators
The irradiated dried fruit should have the color, smell and taste of normal dried fruit, no off-flavor, no insects and live insects detected, and no impurities.

3.3 Physical and chemical indicators
The physicochemical indicators shall conform to the provisions of Table 1.
Table 1 Physico-chemical indicators mg/kg
<table><tr><th>Item</th><th>Indicator</th></tr><tr><td>Lead (in Pb)≤
Arsenic (as As)≤
Mercury (as Hg)≤
Six-six-six≤
DDT≤
Food additives
Irradiated peanut kernel aflatoxin B: limit, μg/kg≤</td><td>1.0
0.7
0.02 (GB 2762)
0.3 (GB 2763)
0.2 (GB 2763)
As per GB 2760
20.0 (GB 2761)</td></tr></table></td>
<td>The requirement for physico-chemical indicators to conform to the provisions of Table 1 corresponds to the need for dried fruits to meet established maximum levels for contaminants, mycotoxins, heavy metals, and other physical and chemical attributes. These standards are defined in various EU Regulations, including Regulation Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues.</td>
<td>• Maximum Permitted Dose
The Directive sets maximum permitted doses of ionizing radiation for various food categories. These doses are established to ensure that the treated foods are safe for consumption.

The maximum permitted doses are listed in Annex II and may vary depending on the type of food and its intended use.

• Record Keeping and Traceability

11 Food business operators are required to maintain records of irradiation operations, including information on the type and quantity of food irradiated, the dose applied, and the date of irradiation.
12 This information must be made available to competent authorities upon request to ensure traceability and compliance with the directive.

• Monitoring and Enforcement

13 Competent authorities in Member States are responsible for monitoring and enforcing compliance with the directive's requirements.
14 They may conduct inspections, take samples, and carry out tests to ensure that irradiated foods meet safety standards.</td>
</tr>
</table>

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation
3.4 Microbiological indicators Microbiological indicators should be in accordance with the provisions of Table 2. **Table 2 Microbiological indicators** Item / Indicator Total number of bacterial colonies, pcs/g ≤ 750 Coliform bacteria, MPN/100g ≤ 30 Pathogenic bacteria (meaning enteric pathogens and pathogenic cocci) Not detectable	In relation to Microbiological Criteria – see Commission Regulation (EC) No **2073/2005 on microbiological criteria for foodstuffs**.	Regulation (EC) No 2073/2005 establishes microbiological criteria for various foodstuffs in the European Union (including fruits and nuts, which can be treated with ionising radiation). These criteria are designed to ensure food safety by specifying acceptable levels of microorganisms, pathogens, and hygiene indicators in different types of food products. The Regulation sets out standards for assessing the microbiological quality of foodstuffs and includes provisions related to sampling and testing. So differences in approaches are the following: **1. Scope** EU Regulation 2073/2005 on microbiological criteria for foodstuffs applies to a wide range of foodstuffs, including ready-to-eat foods, meat products, dairy products, fishery products, and more. It covers both primary production (e.g., farming) and post-harvest stages (e.g., processing and distribution) of food production. **2. Microbiological Criteria** The Regulation defines specific microbiological criteria for different types of microorganisms, including pathogens and hygiene indicators. These criteria specify the maximum acceptable levels of microorganisms in food products. **3. Pathogenic Bacteria** The Regulation sets criteria for pathogens like Salmonella and Listeria monocytogenes, which can cause foodborne illnesses. It establishes limits on the presence of these pathogens in foodstuffs, especially in products where their presence is a significant concern. **4. Hygiene Indicators** Microbiological criteria also include hygiene indicators such as total viable counts (TVC) and Enterobacteriaceae. These indicators are used to assess the general microbiological quality of food products and to evaluate the effectiveness of hygiene practices.

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation
		5. Sampling Plans & Sampling for Control Purposes Regulation (EC) No 2073/2005 outlines detailed procedures for sampling food products to assess their microbiological quality. It includes guidance on the number of samples to be taken, sampling methods, and sampling frequencies. Competent authorities are empowered to take samples for control purposes, and they may conduct investigations and inspections to ensure compliance with the microbiological criteria. **6. Methods of Analysis** The regulation specifies the methods to be used for microbiological testing. These methods are typically referenced from recognized international standards, ensuring consistency and reliability in testing procedures. **7. Responsibilities of Food Business Operators** Food business operators are responsible for ensuring that their products comply with the microbiological criteria. They must regularly monitor and test their products, and if any criteria are exceeded, they must take corrective actions. **8. Product Testing and Documentation** Food business operators are required to keep records of microbiological testing results, sampling plans, and corrective actions taken. This documentation is essential for traceability and compliance purposes. **9. Specific Requirements for Certain Products** Given the fact that the EU Regulation applies to much wider range of products, it includes specific microbiological criteria for certain foodstuffs, taking into account the nature of the product and the associated health risks. For example, there are separate criteria for raw milk and dairy products, minced meat, and sprouted seeds.
3.5 Insect indicators Live worms and live eggs must not be detected.	The references to insect indicators are governed by general EU Regulation (EC) No **852/2004 on the Hygiene of Foodstuffs**	While Regulation (EC) No 852/2004 does not explicitly mention "insect indicators" or the prohibition of "live worms and live eggs," **it provides a comprehensive framework for food safety and hygiene**, including strict measures which would prevent contamination by pests and other hazards. Food businesses are expected to take all necessary steps to ensure that their products are safe for consumption, and this includes controlling the presence of pests like insects.

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation
4 Packaging and labelling The packaging of irradiated dried fruit shall be lined with plastic film in accordance with the food packaging and the outer packaging shall be in cardboard boxes.	Directive 1999/2/EC on the irradiation of foods and food ingredients Directive 1999/3/EC of the European Parliament and of the Council of 22 February 1999 on the establishment of a Community list of foods and food ingredients treated with ionising radiation (OJ L 66, 13.3.1999, pp. 24-25) Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers **Packaging:** Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP.	**Labelling Requirements & Consumer Information** Directive 1999/2/EC includes specific labelling requirements for irradiated foods. These requirements are designed to inform consumers and ensure transparency regarding the treatment of food products through irradiation. Here are the key labelling requirements outlined in Directive 1999/2/EC (Article 6): • **"Irradiated" Labelling** - Any food or food ingredient that has been subjected to irradiation must be labelled as "irradiated." This labelling should be in close proximity to the product name or an easily recognizable name of the food. • **Use of the "Radura" Symbol:** - The international symbol known as the "radura" must be included on the label of irradiated foods. The radura symbol consists of a stylized representation of a broken circle with a stylized beam emanating from it. This symbol is intended to alert consumers to the fact that the food has been irradiated. • **Mention of Food Category:** - The label should indicate the specific food category to which the irradiated food belongs. This information helps consumers identify the type of irradiated food they are purchasing. • **Maximum Permitted Dose** - The label should provide information about the maximum permitted dose of ionizing radiation that was applied to the food. This information is essential for ensuring that the irradiated food complies with safety standards. - These labelling requirements are intended to provide consumers with clear and easily understandable information about the irradiation status of food products. By including the "irradiated" label and the "radura" symbol, consumers can make informed choices when purchasing food, and they can be aware of the irradiation process used on specific products.

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation
		Regulation (EU) No 1169/2011, which governs the provision of food information to consumers in the European Union, does not contain specific provisions related to ionized food. Instead, this Regulation focuses on general requirements for providing information to consumers about food products, including their composition, labelling, and presentation, however, these general requirements are to be fully complied with by irradiated products. **Packaging** While Regulation (EC) No 1935/2004 does not specifically address ionized food, the general principles and requirements apply to all food contact materials and articles, regardless of whether they are used with ionized food or not. Food business operators should ensure that materials and articles used for ionized food comply with these general requirements. It should be noted that there are no such specific requirements in relation to labelling or packaging of irradiated dried nuts and preserved fruits mentioned in the Chinese Standard.

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation
5 Test methods The total number of bacterial colonies shall be in accordance with the provisions of GB 4789.2. Coliform bacteria in accordance with GB 4789.3. Arsenic according to the provisions of GB 5009.11. Lead according to GB 5009.12. Mercury according to the provisions of GB 5009.17. Determination of HCH and DDT residues according to GB5009.19. Determination of aflatoxin B1 according to GB 5009.22	In relation to test methods – see Commission Regulation (EC) No **2073/2005 on microbiological criteria for foodstuffs**.	As stated above, Regulation (EC) No 2073/2005 establishes microbiological criteria for various foodstuffs in the European Union (including fruits and nuts, which can be treated with ionising radiation) and deals with test methods, in particular: **1. Sampling Plans & Sampling for Control Purposes** Regulation (EC) No 2073/2005 outlines detailed procedures for sampling food products to assess their microbiological quality. It includes guidance on the number of samples to be taken, sampling methods, and sampling frequencies. Competent authorities are empowered to take samples for control purposes, and they may conduct investigations and inspections to ensure compliance with the microbiological criteria. **2. Methods of Analysis** The regulation specifies the methods to be used for microbiological testing. These methods are typically referenced from recognized international standards, ensuring consistency and reliability in testing procedures. **3. Responsibilities of Food Business Operators** Food business operators are responsible for ensuring that their products comply with the microbiological criteria. They must regularly monitor and test their products, and if any criteria are exceeded, they must take corrective actions. **4. Product Testing and Documentation** Food business operators are required to keep records of microbiological testing results, sampling plans, and corrective actions taken. This documentation is essential for traceability and compliance purposes. Provisions of the EU Regulation are very detailed and cover the entire issue of microbiological criteria and testing, there are no such detailed provisions to be found in the Chinese Standard.

GB 14891.3-1997 Hygienic standard for irradiated dried nuts and preserved fruits	EU legislation	Implementing rules and comparative evaluation

It should be noted that Chinese Standard for irradiated dried nuts and preserved fruits differs from the EU approach outlined in Directive 1999/2/EC in several key aspects.

While both documents address the irradiation of foods, GB 14891.3-1997 does not contain provisions equivalent to the specific requirements mentioned in the EU Directive. Here's an explanation of the major differences:

15 Authorization and Notification:

- The EU Directive requires food business operators to obtain prior authorization from the competent authority in their Member State before irradiating foods. This authorization process involves scrutiny of the irradiation process and compliance with specific conditions and restrictions.
- The Chinese Standards does not include similar authorization and notification requirements.

16 Maximum Permitted Dose:

- The EU Directive establishes maximum permitted doses of ionizing radiation for various food categories to ensure safety. These doses are listed in Annex II of the Directive and vary based on the type of food and its intended use.
- The Standards GB 14891.3-1997 does not specify in such detail as in Directive maximum permitted doses for irradiated foods and food ingredients.

17 Record Keeping and Traceability:

- The EU Directive requires food business operators to maintain detailed records of irradiation operations, including information on the type and quantity of food irradiated, the dose applied, and the date of irradiation. These records must be accessible to competent authorities for traceability and compliance purposes.
- No such provisions can be found in the Chinese Standard.

18 Monitoring and Enforcement:

- In the EU, competent authorities are responsible for monitoring and enforcing compliance with the directive's requirements. They conduct inspections, sample testing, and other measures to ensure that irradiated foods meet safety standards.
- The Chinese Standard does not expressly refer to monitoring and enforcement. Other Chinese Standards might have their own enforcement mechanisms and monitoring procedures, which could differ from the EU's approach.

Overall, while both the EU Directive and the Chinese National Standard address the irradiation of foods, however, they have different specific requirements and procedures based on their respective regulatory frameworks and priorities.

2.7 GB 14884-2016 National Food Safety Standard-Preserved fruit

GB14884 National Standards for Food Safety Candied fruit	EU legislation	Implementing rules and comparative evaluation
Scope This standard applies to all types of preserves.	The use of preservatives in food is regulated by specific EU Regulations: • Regulation (EC) No 1331/2008 of the European Parliament and of the Council of 16 December 2008 establishing a common authorisation procedure for food additives, food enzymes and food flavourings (OJ L 354, 31.12.2008, p. 1–6) • Regulation (EC) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives, • Regulation (EC) No 1332/2008 of the European Parliament and of the Council of 16 December 2008 on food enzymes and • Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods (hereinafter referred to as the sectoral food laws) laying down harmonised criteria and requirements concerning the assessment and authorisation of these substances. Commission Regulation (EU) No 231/2012 of 9 March 2012 is laying down specifications for food additives listed in Annexes II and III to Regulation (EC) No 1333/2008 of the European Parliament and of the Council. For candied fruit Annexes to Regulation (EC) No 1333/2008 on food additives are of relevance.	The EU has established a comprehensive approach to the legal regulation of preservatives in food (as outlined with references to the EU Regulations). Besides the legal framework, it should be noted: 1. European Food Safety Authority (EFSA) conducts scientific risk assessments of food additives, including preservatives, to evaluate their safety for human consumption. EFSA provides recommendations based on scientific evidence. 2. Authorization Process & Pre-market Approval: Before a preservative can be used in food products within the EU, it must be authorized by the European Commission. The approval process involves evaluating safety data, including toxicity studies and dietary exposure assessments. Maximum Permitted Levels: 3. Specification of Levels: Regulation (EC) No 1333/2008 specifies maximum permitted levels (MPLs) for various preservatives in different food products. These MPLs are based on safety assessments and aim to ensure that consumption remains within safe limits. 4. Use Conditions - the Regulation defines the conditions under which each preservative can be used in food products. This includes information on the types of foods, usage levels, and any restrictions or specific labelling requirements. 5. Labelling Requirements: Preservatives used in food products must be listed on the ingredient label with their specific names or E-numbers. For certain preservatives, the label must indicate the quantity used in the product, expressed as a percentage of the final product.

GB14884 National Standards for Food Safety Candied fruit	EU legislation	Implementing rules and comparative evaluation
2 Terms and definitions **2.1 Candied fruit** Products made from fruit and vegetables, etc., with (or without) the addition of food additives and other auxiliary ingredients, and preserved (or not) in sugar or honey or salt, including candied fruit, cold fruits, preserved fruits, dried fruits, cakes and puddings, etc.	There is no comparable EU Regulation with a scope on candied fruits only. The most relevant would be - Regulation (EC) No 1333/2008, of December 16, 2008, on food additives, includes provisions for candied fruits. This Regulation sets out the rules for the use of various food additives, including those used in candied fruits, and establishes maximum levels for these additives in different food products, including candied fruits.	As above.

<table>
<tr><th>GB14884 National Standards for Food Safety Candied fruit</th><th>EU legislation</th><th>Implementing rules and comparative evaluation</th></tr>
<tr>
<td>
3 Technical requirements
3.1 Raw material requirements
The raw materials shall comply with the corresponding food standards and relevant regulations.

3.2 Sensory requirements
Sensory requirements shall be in accordance with the provisions of Table 1.
Table 1 Sensory requirements
<table>
<tr><th>Item</th><th>Requirement</th><th>Test method</th></tr>
<tr><td>Colour and lustre</td><td>The colour and lustre of the product</td><td rowspan="3">Take an appropriate amount of sample and place it in a clean white dish (porcelain or similar), observe the colour and condition in natural light, check for foreign matter, smell the odour, gargle with warm boiled water and taste the taste.</td></tr>
<tr><td>Taste and odour</td><td>Taste and odour of the product, without any odour</td></tr>
<tr><td>Condition</td><td>The product is in the condition it should be in, no mould, no foreign matter visible to the normal eye</td></tr>
</table>
3.3 Contaminant limits and fungal toxin limits

3.3.1 Contaminant limits should comply with the provisions of GB2762.
3.3.2 Mycotoxin limits should comply with the provisions of GB2761.
</td>
<td>
Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs, Regulation (EU) No 1169/2011 on food information to consumers

Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues.

In relation to Microbiological Criteria - Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs.

The relevant provisions for candied fruit are as follows:

Patulin: The maximum level for patulin in candied fruit is 10 µg/kg. Patulin is a mycotoxin that can be produced by molds, such as Aspergillus and Penicillium. It can be found in a variety of foods, including fruits, vegetables, and cereals. Patulin is considered to be a potential health hazard, as it has been shown to cause cancer in animals.
Lead: The maximum level for lead in candied fruit is 0.010 mg/kg. Lead is a heavy metal that can be harmful to health, especially in children. It can cause a variety of health problems, including damage to the nervous system, kidneys, and reproductive system.
Cadmium: The maximum level for cadmium in candied fruit is 0.020 mg/kg. Cadmium is another heavy metal that can be harmful to health. It can cause a variety of health problems, including kidney damage and cancer.

It is important to note that these are the maximum levels for contaminants in candied fruit. This means that the actual level of contaminants in candied fruit may be lower than the maximum level. However, it is still important to choose candied fruit that has been produced in accordance with the regulations to reduce your exposure to these contaminants.
</td>
<td>
The requirement for raw materials to comply with corresponding standards and relevant regulations aligns with the general principles of food safety and quality set out in EU regulations.
In the EU, candied fruit must meet standards related to hygiene, contaminants, additives, and labelling. These standards are governed by various regulations, including Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs, Regulation (EU) No 1169/2011 on food information to consumers, and others specific to contaminants and additives.
The requirement for physico-chemical indicators to conform to the provisions of Table 1 corresponds to the need for dried fruits to meet established maximum levels for contaminants, mycotoxins, heavy metals, and other physical and chemical attributes. These standards are defined in various EU Regulations, including Regulation Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues.
</td>
</tr>
</table>

GB14884 National Standards for Food Safety Candied fruit	EU legislation	Implementing rules and comparative evaluation
3.4 Microbiological limits 3.4.1 The limits for pathogenic bacteria shall comply with the provisions of GB 29921 for ready-to-eat fruit and vegetable products. 3.4.2 Microbiological limits should also comply with the provisions of Table 2. **Table 2 Microbiological limits** Item | Sampling scheme[a] and limits (n | c | m | M) | Test method Total number of colonies / (CFU/g) | 5 | 2 | 10^3 | 10^4 | GB 4789.2 Coliform/(CFU/g) | 5 | 2 | 10 | 10^2 | GB 4789.3 Moulds/(CFU/g)≤ | 50 | GB 4789.15 [a] Sample analysis and processing according to GB4789.1 and GB/T 4789.24	**Commission Regulation (EC) No 2073/2005 lays down microbiological criteria for various categories of foodstuffs, including candied fruits.** The Regulation establishes specific microbiological standards that food products must meet to ensure their safety and suitability for consumption. While the Regulation covers a wide range of criteria, including pathogens and hygiene indicators, the relevant provisions for candied fruits focus on certain aspects. • General Microbiological Criteria: applicable to all food products, including candied fruits. It outlines hygiene indicators such as aerobic colony count, Enterobacteriaceae, and Escherichia coli. • Listeria monocytogenes - specific criteria for the presence of Listeria monocytogenes, a pathogenic bacterium. The Regulation provides limits for Listeria monocytogenes in certain ready-to-eat foodstuffs, which could be relevant to certain types of candied fruits. • Salmonella spp. - criteria for the presence of Salmonella spp., another pathogenic bacterium. The Regulation sets limits for Salmonella spp. in certain food products, which could apply to candied fruits. • Staphylococcus aureus, a bacterium that can produce toxins under certain conditions.	Regulation 2073/2005 applies to a wide range of food products, encompassing both raw materials and processed foods. It defines microbiological criteria that must be met by these products to ensure consumer safety and prevent the spread of foodborne pathogens. Key Provisions: **Microbiological Criteria:** The Regulation sets out specific criteria for various microorganisms, including pathogens and indicator organisms. These criteria specify acceptable levels or limits of microorganisms in different food products. The microorganisms covered include Salmonella, Listeria monocytogenes, E. coli, Staphylococcus aureus, and many others. **Food Categories**: Regulation (EC) No 2073/2005 categorizes food products into different groups based on their characteristics and the potential microbiological risks associated with them. These categories help determine which specific microbiological criteria apply to each type of food. **Sampling and Testing:** The regulation provides guidelines on the sampling and testing of food products to assess their microbiological safety. It outlines procedures for sampling and laboratory analysis to determine compliance with the established criteria.

GB14884 National Standards for Food Safety Candied fruit	EU legislation	Implementing rules and comparative evaluation
		Responsibilities of Food Business Operators: Food business operators are responsible for ensuring that the food they produce or market complies with the microbiological criteria. They are also responsible for implementing appropriate control measures to reduce the risk of microbiological contamination. **Actions in Case of Non-Compliance:** The regulation outlines actions to be taken by competent authorities and food business operators if a food product does not meet the microbiological criteria. These actions may include withdrawal from the market, recall, or destruction of non-compliant products. **Documentation and Record-Keeping:** Food business operators are required to maintain records and documentation related to microbiological testing, sampling, and control measures. These records can be inspected by competent authorities to ensure compliance. **Sampling Plans:** The regulation includes sampling plans for specific food categories, specifying the number of samples to be taken and the frequency of sampling. These plans are designed to ensure representative testing of food products. **Hygiene Criteria:** In addition to microbiological criteria, the regulation also includes hygiene criteria for certain categories of foodstuffs. These criteria relate to the presence of specific pathogens and indicator organisms and are designed to assess the effectiveness of hygiene practices in food production.

GB14884 National Standards for Food Safety Candied fruit	EU legislation	Implementing rules and comparative evaluation
3.5 Food additives The use of food additives should comply with the provisions of GB2760.	**Food Additives:** The use of food additives in dried fruits is governed by Regulation (EC) No 1331/2008 on food additives. This regulation establishes permitted additives and their maximum usage levels.	This appears to be outside the scope of the Chinese Standard, as general reference is made to corresponding health standards and regulations. The key points of Regulation (EC) No 1331/2008 on food additives are as outlined below: **Safety Evaluation:** Before a food additive can be authorized for use in the EU, it must undergo a safety evaluation by the European Food Safety Authority (EFSA). The EFSA assesses the potential risks associated with the additive's use, including toxicity, allergenicity, and other health concerns. **Permitted Additives:** Regulation (EC) No 1331/2008 establishes a list of permitted food additives, which includes both individual additives and groups of additives. Only additives included in this list may be used in food products. **Maximum Usage Levels:** The Regulation specifies the maximum usage levels for each permitted additive, ensuring that they are used within safe limits. These maximum levels vary depending on the type of food and the specific function of the additive. **Acceptable Daily Intake (ADI):** The ADI is the amount of a food additive that can be safely consumed daily over a lifetime without causing harm. The regulation takes into account the ADI when setting maximum usage levels for additives.

GB14884 National Standards for Food Safety Candied fruit	EU legislation	Implementing rules and comparative evaluation
		Labelling Requirements: Food products containing additives must be labelled to inform consumers of their presence. The label must include the name or E number of the additive, which helps consumers identify which additives are used. **Notification and Approval Process:** Manufacturers must notify or seek approval for the use of new additives, and the process involves a safety assessment by the EFSA. This ensures that new additives meet safety criteria before they can be used in food products. **Re-Evaluation of Additives:** The EFSA periodically reviews the safety of food additives, including those that were previously approved. This ongoing evaluation ensures that additives continue to meet safety standards. The EU Regulation includes special provisions for specific categories of additives, such as sweeteners, colours, and flavorings, each of which has its own set of criteria and requirements.

GB14884 National Standards for Food Safety Candied fruit	EU legislation	Implementing rules and comparative evaluation
3.6 Pesticide residue limits Pesticide residue limits should be consistent with the provisions of GB2763.	Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC Text with EEA relevance. Select: 1 OJ L 70, 16.3.2005, p. 1–16	The EU has established a comprehensive legal approach for the regulation of pesticides, particularly in relation to pesticide residue limits. The key aspects of the EU's approach are outlined below: Regulation (EC) No 396/2005 specifically addresses maximum residue levels (MRLs) of pesticides in or on food and feed of both plant and animal origin (all products not just specific category). The MRLs set by the Regulation specify the maximum allowable concentration of pesticide residues, beyond which products are considered non-compliant.
	Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods, OJ L 404, 30.12.2006, p. 26–38.	To be noted that vitamins and minerals can be added to candied fruits, but their addition is subject to requirements of Regulation (EC) No 1925/2006 on the addition of vitamins and minerals and of certain other substances to foods.
	HACCP	It should be noted that the Chinese standard does not make reference to HACCP. To ensure the safety of candied fruits, food manufacturers and processors should follow good manufacturing practices (GMP) and implement Hazard Analysis and Critical Control Points (HACCP) systems. These measures include: • Properly washing and sanitizing equipment and utensils. • Ensuring the cleanliness and hygiene of workers. • Using high-quality raw materials that are free from pathogens. • Monitoring and controlling temperature and humidity during processing and storage. • Conducting regular testing for microbiological contamination. • Implementing procedures for traceback and recalls in case of contamination.

2.8 GB 8956-2016 National Standards of food safety specification of hygienic practice for the production of preserves.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
1 Scope This standard specifies the basic requirements and management guidelines for premises, facilities and personnel for the procurement of raw materials, processing, packaging, storage and transport in the production of preserves. This standard applies to the production of preserves, and the production of fruit germ shall comply with the provisions of the corresponding articles.	Regulation (EC) No **852/2004 on the Hygiene of Foodstuffs** The use of preservatives in food is regulated by specific EU Regulations: • Regulation (EC) No 1331/2008 of the European Parliament and of the Council of 16 December 2008 establishing a common authorisation procedure for food additives, food enzymes and food flavourings (OJ L 354, 31.12.2008, p. 1–6) • Regulation (EC) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives, • Regulation (EC) No 1332/2008 of the European Parliament and of the Council of 16 December 2008 on food enzymes and • Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods (hereinafter referred to as the sectoral food laws) laying down harmonised criteria and requirements concerning the assessment and authorisation of these substances. Commission Regulation (EU) No 231/2012 of 9 March 2012 is laying down specifications for food additives listed in Annexes II and III to Regulation (EC) No 1333/2008 of the European Parliament and of the Council. **Also relevant - Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food** and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues.	The EU has established a comprehensive approach to the legal regulation of food hygiene and preservatives in food (as outlined with references to the EU Regulations). Besides the legal framework, it should be noted: 1. European Food Safety Authority (EFSA) conducts scientific risk assessments of food additives, including preservatives, to evaluate their safety for human consumption. EFSA provides recommendations based on scientific evidence. 2. Authorization Process & Pre-market Approval: Before a preservative can be used in food products within the EU, it must be authorized by the European Commission. The approval process involves evaluating safety data, including toxicity studies and dietary exposure assessments. Maximum Permitted Levels: 3. Specification of Levels: Regulation (EC) No 1333/2008 specifies maximum permitted levels (MPLs) for various preservatives in different food products. These MPLs are based on safety assessments and aim to ensure that consumption remains within safe limits. 4. Use Conditions - the Regulation defines the conditions under which each preservative can be used in food products. This includes information on the types of foods, usage levels, and any restrictions or specific labelling requirements. 5. Labelling Requirements: Preservatives used in food products must be listed on the ingredient label with their specific names or E-numbers. For certain preservatives, the label must indicate the quantity used in the product, expressed as a percentage of the final product.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
2.1 Fruit germ Raw material used for the production of preserves after the initial processing of fresh fruit and vegetables. **2.2 Preserves** Fresh fruit and vegetables candied with sugar or honey, or salted collectively referred to as pickled. **2.3 Drying field (room)** Drying of fruit and vegetable raw materials, fruit embryos, semi-finished products of the place. **2.4 pickling containers** Pickled fruits and vegetables containers, including pickling pool, pickling tank, pickling tank, pickling barrel, etc.	No comparable EU Regulation with similar classification, but consider COMMISSION IMPLEMENTING REGULATION (EU) No 543/2011 of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors **Regulation (EC) No 1333/2008 on food additives.** This Regulation establishes rules for the authorization and use of food additives, including preservatives, in food products sold within the EU. **Regulation (EC) No 852/2004 on the hygiene of foodstuffs (see section 7 – Food Additives)**	Regulation 543/2011 of 7 June 2011 lays down implementing rules for Regulation 1234/2007 **as regards the fruit and vegetables and processed fruit and vegetables sectors (so, quality of raw materials, i.e. fruits & vegetables will be covered)**. TITLE II - **CLASSIFICATION OF PRODUCTS** The specific hygiene requirements for containers used in the processing of pickled fruits and vegetables, including pickling pools, tanks, barrels, and other equipment, would generally fall under the broader regulations governing food hygiene and safety in the EU. The primary regulation that addresses these aspects is Regulation (EC) No 852/2004 on the hygiene of foodstuffs. Under Regulation (EC) No 852/2004, food business operators are responsible for ensuring that all equipment and facilities used in food processing and handling, including containers, are designed, constructed, and maintained to meet hygiene and safety standards. While the regulation does not provide specific details on the design and construction of pickling containers, it sets the general framework for maintaining hygiene throughout the food production process. To be noted: the specific requirements for the design, construction, and maintenance of pickling containers and equipment may be further detailed in national or regional regulations, industry guidelines, or best practices. These guidelines can vary by country or region within the EU, and they may specify materials, construction standards, cleaning procedures, and other factors relevant to pickling containers.
3 Site selection and plant environment 3.1 The provisions of 3.1 of GB 14881-2013 should be met. 3.2 No poultry or livestock should be kept in the plant area	Regulation (EC) No 852/2004 on the hygiene of foodstuffs	Regulation (EC) No 852/2004 lays down the general hygiene requirements for food business operators in the European Union, relevant provisions would concern: • **Layout and Design** • **Maintenance and Cleanliness**

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
4 Plant and workshop **4.1 Design and layout** 4.1.1 Should comply with the provisions of 4.1 in GB 14881-2013. 4.1.2 According to the needs of the production process, should be set up raw material acceptance field, raw material handling field, raw material warehouse, raw material curing field, drying field (room), container cleaning place, processing and blending field, drying room, inner packaging room, outer packaging room and other places. 4.1.3 Production workshops or internal areas should be divided into clean work areas, quasi-clean work areas and general work areas according to their cleanliness requirements, and cross-contamination should be prevented between the areas. Clean work areas (e.g. internal packaging rooms, etc.) should be separated from other work areas, with separate access for personnel and material transport. Quasi-clean work areas may include processing and blending yards, semi-finished products drying yards (rooms), container washing places, drying rooms, etc. General work area it may include raw material acceptance yards, raw material handling yards, raw material curing yards, raw material drying yards, raw material warehouses, outer packaging rooms, etc. **4.2 Building internal structure and materials** Should comply with the provisions of 4.2 in GB 14881-2013.	Regulation (EC) No 852/2004 on the hygiene of foodstuffs, Article 4 *General and specific hygiene requirements* Food business operators carrying out primary production and those associated operations listed in **Annex I** shall comply with the general hygiene provisions laid down in Part A and specific hygiene provisions in Part B, as well as of Annex II	Regulation (EC) No 852/2004 lays down the general hygiene requirements for food business operators in the European Union. Part of these requirements pertains to facilities and equipment used in food handling and processing. Below are the key EU requirements for facilities and equipment as outlined in Regulation 852/2004: **Layout and Design:** Food premises, including the layout and design of the facilities, should be constructed and organized in a way that allows for good food hygiene practices. The layout should prevent cross-contamination, facilitate cleaning, and provide adequate space for various activities. **Maintenance and Cleanliness:** Facilities and equipment must be kept in good repair and maintained in a clean and sanitary condition. This includes regular cleaning and disinfection to prevent the accumulation of dirt, pests, and other contaminants. **Protection from Contamination:** Measures should be in place to protect food from contamination, including adequate storage facilities, protective coverings, and appropriate handling procedures. **Temperature Control:** Facilities and equipment that are used to store or process food should have the necessary temperature control systems to ensure that food is stored or prepared at the correct temperatures to prevent spoilage and the growth of harmful microorganisms.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
5 Facilities and equipment **5.1 General requirements** Should comply with the provisions of Chapter 5 of GB 14881-2013. **5.2 Pickling containers** 5.2.1 Pickling tanks should be surrounded by no pollution sources. If the curing tank is located outdoors, effective measures should be taken to prevent the intrusion of rainwater, foreign objects or animals. The capacity of the pickling pool should be sized according to the production capacity and the interior walls of the pool should be made of non-toxic and non-hazardous materials and be waterproof, corrosion resistant and easy to clean. To prevent the intrusion of sewage and foreign objects during cleaning, the surface of the pickling pool should be more than 30cm above the ground. Pools and pools are separated from each other by solid walls. 5.2.2 Pickling tanks, vats, barrels and other non-fixed containers should be placed indoors, but must be covered and kept airtight if placed outdoors. **5.3 Drying yards (rooms)** 5.3.1 Raw material drying yards (rooms) 5.3.1.1 Raw material drying and drying yards (rooms) should be located away from sources of pollution (chemical plants, pesticide plants, waste disposal sites, etc.). 5.3.1.2 The floor of the drying yard (room) should be paved with hard materials such as cement or slate or with non-toxic, odourless, mould-proof, non-shedding and easy-to-clean paint; the floor should be flat and free from stagnant water; the floor of the drying yard should be flat and free from stagnant water and have a certain slope for drainage.	Regulation (EC) No 852/2004 on the hygiene of foodstuffs, Article 4 *General and specific hygiene requirements* Food business operators carrying out primary production and those associated operations listed in **Annex I** shall comply with the general hygiene provisions laid down in Part A and specific hygiene provisions in Part B, as well as of Annex II	**Water Supply:** There should be a supply of potable water for cleaning and food preparation, and it should be available in sufficient quantity and pressure. **Personal Hygiene Facilities:** Facilities for personal hygiene, such as handwashing sinks and changing rooms, should be provided for staff, and they should be located in appropriate areas. **Ventilation and Lighting**: Adequate ventilation and lighting should be provided to maintain a suitable working environment and to prevent the build-up of condensation or mold. **Equipment Materials:** Materials used in the construction of equipment that comes into contact with food must be suitable for their intended use, easy to clean and disinfect, and non-toxic. **Waste Disposal:** Adequate facilities and procedures should be in place for the collection and disposal of waste and non-food items to prevent contamination of food. **Maintenance Records:** Records should be kept of maintenance, cleaning, and any repairs to facilities and equipment. **Separation of Activities:** There should be separation between different activities, such as raw and cooked food handling, to prevent cross-contamination. These requirements are aimed at ensuring the highest standards of food safety and hygiene throughout the food production and handling process. Food business operators in the EU are expected to adhere to these requirements to minimize the risk of foodborne illnesses and ensure the safety of consumers. It's important to consult the full text of Regulation 852/2004 and any relevant national legislation or guidance for comprehensive details and specific requirements. What is missing the in the Chinese Standard: 1. **Separation of Activities – it is not mentioned expressly and explicitly,** While the concepts of separation of activities and preventing cross-contamination are similar between the Chinese Standard and EU requirements, the terminology and specific areas mentioned differ. The Chinese Standard categorizes areas into clean, quasi-clean, and general work areas, while the EU requirements clearly requires separation of activities like raw and cooked food handling.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
5.3.2 Semi-finished drying yards (rooms) For products that are directly consumed after sun-drying, the semi-finished products should be dried in a tightly enclosed dry drying field (room), equipped with dustproof, foreign body-proof, insect-proof and rodent-proof facilities. Semi-finished products should be placed on drying trays or other containers to avoid direct contact with the ground		2. **Water Supply** – which is crucial for hygiene, To be concluded: the EU Regulation focuses on broader hygiene requirements for food business operators, facilities, equipment, and processes, but it does not typically provide detailed specifications for specific equipment or tanks used in food processing (such as Chinese Standard – **5.2 Pickling containers).**
6 Hygiene management **6.1 Hygiene management system** It should comply with the provisions of 6.1 in GB 14881-2013. **6.2 Hygienic management of plant and facilities** 6.2.1 Shall comply with the provisions of 6.2 in GB 14881-2013. 6.2.2 The raw material handling yard and the processing and blending yard shall be cleaned daily during production. 6.2.3 Effective measures shall be taken to exhaust steam generated during operations to the outdoors. 6.2.4 Production containers should be cleaned as required during production and disinfected and dried. 6.2.5 Facilities and equipment for hand washing and disinfection and hand drying shall be provided at the entrance to the workshop.	Regulation (EC) No 852/2004 on the hygiene of foodstuffs, Article 4 *General and specific hygiene requirements* Food business operators carrying out primary production and those associated operations listed in **Annex I** shall comply with the general hygiene provisions laid down in Part A and specific hygiene provisions in Part B, as well as of Annex II	In accordance with Regulation (EC) No 852/2004 on the hygiene of foodstuffs, " food hygiene ", hereinafter called " hygiene ", means the measures and conditions necessary to control hazards and to ensure fitness for human consumption of a foodstuff taking into account its intended use. Hygienic management of plant and facilities in food processing refers to the practices and procedures put in place to ensure that the physical environment of the food processing plant is clean and sanitary, and that it does not pose a risk of contamination to food products. Some of the key elements of hygienic plant and facilities management include: **Design and construction:** The plant should be designed and constructed in a way that facilitates cleaning and prevents the accumulation of dirt, dust, and other contaminants. This includes features such as smooth, non-porous surfaces, sloped floors, and drains that are easy to clean. **Cleaning and sanitation:** The plant and all of its equipment should be cleaned and sanitized on a regular basis, using chemicals and methods that are effective against foodborne pathogens. **Pest control:** The plant should be free of pests, such as rodents, insects, and birds. This can be achieved through a combination of physical barriers, traps, and pesticides. **Waste management:** Waste materials should be disposed of in a way that does not pose a risk of contamination to food products. This includes proper storage, handling, and disposal of waste. **Personnel hygiene:** The personnel who work in the plant must practice good personal hygiene, as outlined in Regulation (EC) No 852/2004. This includes washing hands frequently, wearing clean clothing, and avoiding contact with food when they are sick.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
6.3 Health management and hygiene requirements for food processing personnel **6.3.1 Health management of food processing personnel** The requirements of relevant national laws and regulations shall be met. **6.3.2 Hygiene requirements for food processors** 6.3.2.1 The provisions of 6.3.2 in GB 14881-2013 should be met. 6.3.2.2 Workers should wear clean waterproof clothing and footwear when going down to the pickling pool to pick up pickles or when working at the pool; protective equipment used should also be kept clean. **6.4 Pest control** The provisions of 6.4 in GB 14881-2013 should be met. **6.5 Waste disposal** The provisions of 6.5 in GB 14881-2013 should be complied with. **6.6 Workwear management** Should comply with the provisions of 6.6 in GB 14881-2013.		The requirements related to the health and hygiene of personnel working in food processing according to Regulation (EC) No 852/2004 on the hygiene of foodstuffs (Annex I, Chapter VIII): • Personnel must be healthy and free from any infection or illness that could be transmitted through food. They must not work with food if they have any symptoms of illness, such as vomiting, diarrhea, or fever. • Personnel must wash their hands thoroughly before, during, and after handling food. They should also wash their hands after using the toilet, changing diapers, or blowing their nose. • Personnel must wear clean clothing and hair covering when handling food. This helps to prevent the transfer of dirt, bacteria, and other contaminants from their clothing and hair to the food. • Personnel must not smoke, chew gum, or eat while handling food. This can contaminate the food with bacteria and other harmful substances. • Personnel must not touch their face, hair, or clothing while handling food. This can also contaminate the food. • Personnel must report any illness to their supervisor immediately. This will help to prevent the spread of illness to other workers and to the food.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
What appears to be missing in the Chinese Standard on Food Preserves – WATER SUPPLY Regulation (EC) No 852/2004 on the hygiene of foodstuffs, ANNEX II "GENERAL HYGIENE REQUIREMENTS FOR ALL FOOD BUSINESS OPERATORS" CHAPTER VII, WATER SUPPLY 1. (a) There is to be an adequate supply of potable water, which is to be used whenever necessary to ensure that foodstuffs are not contaminated; (b) Clean water may be used with whole fishery products. Clean seawater may be used with live bivalve molluscs, echinoderms, tunicates and marine gastropods; clean water may also be used for external washing. When such water is used, adequate facilities are to be available for its supply. 2. Where non-potable water is used, for example for fire control, steam production, refrigeration and other similar purposes, it is to circulate in a separate duly identified system. Non-potable water is not to connect with, or allow reflux into, potable water systems. 3. Recycled water used in processing or as an ingredient is not to present a risk of contamination. It is to be of the same standard as potable water, unless the competent authority is satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form. 4. Ice which comes into contact with food or which may contaminate food is to be made from potable water or, when used to chill whole fishery products, clean water. It is to be made, handled and stored under conditions that protect it from contamination. 5. Steam used directly in contact with food is not to contain any substance that presents a hazard to health or is likely to contaminate the food. 6. Where heat treatment is applied to foodstuffs in hermetically sealed containers it is to be ensured that water used to cool the containers after heat treatment is not a source of contamination for the foodstuff.		
7 Food ingredients, food additives and food-related products **7.1 General requirements** The provisions of 7.1 in GB 14881-2013 shall be met. **7.2 Food ingredients** 7.2.1 Shall comply with the provisions of 7.2 in GB 14881-2013. 7.2.2 Fresh fruit and vegetables should be processed promptly after harvesting according to the needs of the process, such as refrigeration, pickling and drying. 7.2.3 The processing of fruit embryos shall be carried out in accordance with the relevant provisions of this standard.	Regulation 543/2011 of 7 June 2011 lays down implementing rules for Regulation 1234/2007 **as regards the fruit and vegetables and processed fruit and vegetables sectors (so, quality of raw materials, i.e. fruits & vegetables will be covered)**. TITLE II - **CLASSIFICATION OF PRODUCTS** **Regulation (EU) No 1169/2011 on Food Information to Consumers:** This regulation specifies requirements for food labelling, including the mandatory information that must be provided to consumers on food labels.	**Regulation (EC) No 1333/2008 on food additives.** This Regulation establishes rules for the authorization and use of food additives, including preservatives, in food products sold within the EU. Annex I to the Regulation contains among others definition of 'preservatives' are substances which prolong the shelf-life of foods by protecting them against deterioration caused by micro-organisms and/or which protect against growth of pathogenic micro-organisms; Key points regarding food preservatives in the EU regulation on food additives include: **Safety Assessment**: Before a food preservative can be authorized for use in the EU, it must undergo a safety assessment by the European Food Safety Authority (EFSA). The EFSA evaluates scientific data to determine the safety of the additive for consumers. **Authorized Preservatives:** Food preservatives are listed in Annex II of Regulation (EC) No 1333/2008. Each preservative is assigned an E-

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
7.3 Food additives 7.3.1 The provisions of 7.3 in GB 14881-2013 and the relevant provisions of GB2760 shall be complied with. 7.3.2 Operational procedures for the use of food additives shall be developed in accordance with the provisions of the relevant national standards and the production process of the specific product. The addition process shall be managed by two persons, one weighing, one double checking, joint feeding and record keeping. 7.3.3 A food additive production and use ledger shall be established to record information on the quantity of food additives received, quantity used, and quantity in stock. **7.4 Food-related products** The provisions of 7.4 in GB 14881-2013 shall be complied with.	**Regulation (EC) No 1333/2008 on food additives**	number, which is used to identify it. For example, E202 represents potassium sorbate, a common food preservative. **Maximum Allowable Limits**: The regulation specifies the maximum allowable levels (maximum permitted levels or MPLs) for each authorized food preservative in various food categories. These MPLs are designed to ensure that the use of preservatives does not pose health risks to consumers. **Labelling Requirements:** Food products containing food preservatives must be labelled with the name or E-number of the preservative used, so consumers are informed about their presence in the product. **Revision and Re-evaluation:** The regulation is periodically reviewed and updated to reflect new scientific evidence or changes in food safety standards. If new information arises that suggests a safety concern with a specific preservative, it can be re-evaluated, and its authorization may be modified or revoked. **Acceptable Daily Intake (ADI**): Each food preservative is assigned an ADI, which represents the amount of the additive that can be consumed daily over a lifetime without appreciable health risk.
8 Food safety control of the production process **8.1 Risk control of product contamination** Shall comply with the provisions of 8.1 in GB 14881-2013. **8.2 Control of biological contamination** **8.2.1 General requirements** The provisions of 8.2 in GB 14881-2013 shall be met. **8.2.2 Cleaning and disinfection** Fresh fruit and vegetables or fruit embryos should be rinsed clean using clean water according to the needs of the process; if pretreatment is carried out by rinsing, the water temperature should be above 80°C and the duration may vary according to the variety and maturity of the fruit and vegetables, etc.	Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs, OJ L 139, 30.4.2004, p. 1–54 Council Regulation (EEC) No 315/93 of 8 February 1993 laying down Community procedures for contaminants in food Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006	Regulation (EC) No 852/2004, **Article 4 provides general and specific hygiene requirements for food business operators. This concerns:** **Primary Production and Associated Operations (Annex I): Food business operators engaged in primary production and associated operations listed in Annex I must adhere to the general hygiene provisions in Part A of Annex I.** **More specifically (Chapter II – HYGIENE PROVISIONS) - food business operators are to comply with appropriate Community and national legislative provisions relating to the control of hazards in primary production and associated operations, including:** (a) **measures to control contamination arising from the air, soil, water, feed, fertilizers, veterinary medicinal products, plant protection products and biocides and the storage, handling and disposal of waste.**

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
8.2.3 Microbiological monitoring of food processing Microbiological monitoring of the processing of preserves can be referred to in Appendix A. **8.3 Control of chemical contamination** The provisions of 8.3 in GB 14881-2013 shall be complied with. **8.4 Control of physical contamination** Should comply with the provisions of GB 14881-2013, 8.4. **8.5 Packaging** 8.5.1 The provisions of 8.5 in GB 14881-2013 shall be met. 8.5.2 Metal detection devices shall be provided according to production needs and maintained in effective operation.	Commission Regulation (EC) No 1881/2006 of 19 December 2006 setting maximum levels for certain contaminants in foodstuffs Commission Implementing Regulation (EU) 2022/932 of 9 June 2022 on uniform practical arrangements for the performance of official controls as regards contaminants in food, on specific additional content of multi-annual national control plans and specific additional arrangements for their preparation. Council Regulation 2016/52 of 15 January 2016 laying down maximum permitted levels of radioactive contamination of food and feed following a nuclear accident or any other case of radiological emergency, and repealing Regulation (Euratom) No 3954/87 and Commission Regulations (Euratom) No 944/89 and (Euratom) No 770/90 **Microbiological Criteria:** Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs does apply to dried fruits. This Regulation establishes microbiological criteria that cover a wide range of foods, including dried fruits.	**Production, Processing, and Distribution Stages (Annex II): Food business operators involved in stages of production, processing, and distribution of food beyond those covered in paragraph 1 should comply with the general hygiene requirements detailed in Annex II.** **Specific Hygiene Measures: Food business operators are required to implement specific hygiene measures as appropriate. These measures include:** • **Compliance with microbiological criteria for foodstuffs.** • **Procedures necessary to meet targets set to achieve the objectives of the regulation.** • **Compliance with temperature control requirements for foodstuffs.** • **Maintenance of the cold chain.** • **Sampling and analysis of food.** **Adoption of Criteria and Targets: The criteria, requirements, and targets mentioned in paragraph 3 should be established through a specific procedure as referred to in Article 14(2). Sampling and analysis methods associated with these criteria are also determined through the same procedure.** **Sampling and Analysis Methods: When this regulation and its implementing measures do not specify sampling or analysis methods, food business operators have the flexibility to use appropriate methods established in other Community or national legislation. In the absence of such methods, they can use methods that yield results equivalent to those of the reference method, provided these alternative methods are scientifically validated according to internationally recognized rules or protocols.** **Use of Guides: Food business operators are allowed to utilize the guidance provided in Articles 7, 8, and 9 as tools to help them comply with their obligations under this regulation. These guides can serve as aids in ensuring compliance with hygiene requirements.** Article 5.1. **Food business operators shall put in place, implement and maintain a permanent procedure or procedures based on the HACCP principles.**

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
9 Inspection 9.1 The relevant provisions of Chapter 9 in GB 14881-2013 shall be complied with. 9.2 Salinity, sugar, acidity, moisture and temperature should be checked during production according to the needs of the process to ensure product quality.	Official Control Regulation (EU) 2017/625 of the European Parliament and of the Council	See comparative evaluation with emphasis to risk based approach of food inspections.

Regulation (EU) 2017/625 of the European Parliament and of the Council, often referred to as the "Official Controls Regulation," establishes a comprehensive framework for official controls and activities performed to ensure the application of various laws related to food, feed, animal health, animal welfare, plant health, and plant protection products within the EU. The Regulation includes provisions related to inspections. Some of the major provisions regarding inspections under this Regulation include:

1. **Risk-Based Approach:** The regulation emphasizes the importance of a risk-based approach to inspections. Competent authorities are required to prioritize their inspection activities based on the assessed risks associated with different operators and products. This ensures that resources are allocated effectively to areas with the highest potential risk to public health and safety.
2. **Frequency of Inspections:** The regulation specifies that competent authorities should conduct inspections at regular intervals, taking into account the risk factors associated with the operators and products. High-risk operators and products may be subject to more frequent inspections.
3. **Unannounced Inspections:** Competent authorities are empowered to conduct unannounced inspections when necessary, especially in cases where advance notice might undermine the effectiveness of the inspection. This is particularly important for ensuring the integrity of control measures.
4. **Inspection Procedures:** The regulation outlines the procedures for conducting inspections, including how inspections should be planned, executed, and documented. It also covers the use of sampling and testing as part of the inspection process.
5. **Powers of Inspectors**: Inspectors have the authority to access premises, documents, and records relevant to their inspection. They can take samples, request information, and interview personnel as needed to carry out their duties.
6. **Cooperation and Coordination:** The regulation promotes cooperation and coordination among EU Member States to ensure consistency and effectiveness in carrying out inspections. This includes sharing information and coordinating cross-border inspections when necessary.
7. **Enforcement Measures:** The regulation sets out measures that competent authorities can take in response to non-compliance or violations identified during inspections. These measures may include corrective actions, suspension of operations, and withdrawal of approvals.
8. **Import Controls**: The regulation includes provisions for inspections of imported food and feed to ensure that they comply with EU standards. Competent authorities are responsible for verifying the safety and compliance of imported products.
9. **Documentation and Reporting:** Detailed records of inspections, findings, and enforcement actions must be maintained by competent authorities. They are also required to report relevant information to the European Commission and other Member States.

It can be seen that EU approach is comprehensive and risk based. The provisions within Regulation (EU) 2017/625 are designed to enhance the efficiency and effectiveness of official controls and inspections related to food safety, animal health, animal welfare, plant health, and plant protection products within the European Union. The Regulation aims to ensure a high level of protection for consumers and the environment while facilitating the functioning of the internal market for these products.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
10 Storage and transport of food Should comply with the relevant provisions of Chapter 10 in GB 14881-2013.	Storage and transport of all food products are regulated in the EU under **Regulation No 852/2004 on the Hygiene of Foodstuffs:** • **General Hygiene Requirements:** The Regulation sets out fundamental principles for food hygiene, including cleanliness, maintenance of premises and equipment, personal hygiene, and protection against contamination. These principles apply to all stages of the food supply chain, including storage and transportation. • **Maintenance of Premises and Equipment**: Food storage and transportation facilities must be designed, constructed, and maintained to prevent contamination, deterioration, and the growth of harmful microorganisms. Equipment used for storage and transportation should be cleaned, sanitized, and properly maintained. • **Temperature Control:** Food items, must be stored and transported at appropriate temperatures to prevent spoilage and ensure food safety. Temperature control is critical to prevent the growth of pathogens and maintain product quality for dried fruit. • **Separation of Products:** The Regulation requires that different types of food, are separated to prevent cross-contamination. This includes separating raw and processed foods, allergenic and non-allergenic foods, and foods with different storage requirements. • **Protection from Contamination:** Food products should be stored and transported in a way that prevents contamination from pests, chemicals, and other sources. Packaging materials should be suitable for food contact and protect against contamination. • **Traceability:** The regulation emphasizes traceability, requiring food businesses to maintain systems that allow for the identification of the origin and destination of food products. This is crucial for food safety and in the event of recalls. • **Personal Hygiene:** Personnel involved in the storage and transportation of dried fruits must adhere to strict personal hygiene practices to prevent contamination of the food products. • **Documentation:** Records related to the storage and transportation of food, including dried fruits, should be maintained to demonstrate compliance with hygiene requirements. This includes records of temperature monitoring, cleaning schedules, and transport conditions.	All mentioned EU requirements are important for comparison with the mentioned Chinese Standard.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
11 Product recall management Should comply with the relevant provisions of Chapter 11 in GB 14881-2013.	Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety OJ L 31, 1.2.2002, p. 1–24	The European Union has specific regulations and guidelines related to food product recalls, and one of the key regulations is Regulation (EC) No 178/2002. This regulation establishes the general principles and requirements of food law, including provisions related to food safety and traceability. It also outlines procedures for food safety incidents and product recalls. Under Regulation (EC) No 178/2002 (Article 19), food businesses are required to notify authorities when they believe that a food product they have placed on the market may be unsafe. The Regulation also sets out requirements for information exchange and cooperation between food businesses, competent authorities, and the European Commission in the event of a food safety issue or recall. Article 19 Responsibilities for food: food business operators 1. If a food business operator considers or has reason to believe that a food which it has imported, produced, processed, manufactured or distributed is not in compliance with the food safety requirements, it shall immediately initiate procedures to withdraw the food in question from the market where the food has left the immediate control of that initial food business operator and inform the competent authorities thereof. Where the product may have reached the consumer, the operator shall effectively and accurately inform the consumers of the reason for its withdrawal, and if necessary, recall from consumers products already supplied to them when other measures are not sufficient to achieve a high level of health protection. 2. A food business operator responsible for retail or distribution activities which do not affect the packaging, labelling, safety or integrity of the food shall, within the limits of its respective activities, initiate procedures to withdraw from the market products not in compliance with the food-safety requirements and shall participate in contributing to the safety of the food by passing on relevant information necessary to trace a food, cooperating in the action taken by producers, processors, manufacturers and/or the competent authorities. 3. A food business operator shall immediately inform the competent authorities if it considers or has reason to believe that a food which it has placed on the market may be injurious to human health. Operators shall inform the competent authorities of the action taken to prevent risks to the final consumer and shall not prevent or discourage any person from cooperating, in accordance with national law and legal practice, with the competent authorities, where this may prevent, reduce or eliminate a risk arising from a food. 4. Food business operators shall collaborate with the competent authorities on action taken to avoid or reduce risks posed by a food which they supply or have supplied.

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
12 Training Should comply with the relevant provisions of Chapter 12 in GB 14881-2013.	Regulation (EC) No 852/2004 on the hygiene of foodstuffs, **Annex I** shall comply with the general hygiene provisions laid down in Part B	CHAPTER XII TRAINING Food business operators are to ensure: 1. that food handlers are supervised and instructed and/or trained in food hygiene matters commensurate with their work activity; 2. that those responsible for the development and maintenance of the procedure referred to in Article 5(1) of this Regulation or for the operation of relevant guides have received adequate training in the application of the HACCP principles; and 3. compliance with any requirements of national law concerning training programmes for persons working in certain food sectors.
13 Management system and personnel Shall comply with the relevant provisions of Chapter 13 in GB 14881-2013.	Regulation (EC) No 852/2004 on the hygiene of foodstuffs, Articles 4 & 5 - **hygiene requirements for food business operators as part of a food management system.**	Regulation (EC) No 852/2004, **Article 4 provides general and specific hygiene requirements for food business operators as part of a food management system. This concerns:** **Primary Production and Associated Operations (Annex I): Food business operators engaged in primary production and associated operations listed in Annex I must adhere to the general hygiene provisions in Part A of Annex I.** **Production, Processing, and Distribution Stages (Annex II): Food business operators involved in stages of production, processing, and distribution of food beyond those covered in paragraph 1 should comply with the general hygiene requirements detailed in Annex II.** **Specific Hygiene Measures: Food business operators are required to implement specific hygiene measures as appropriate. These measures include:** • **Compliance with microbiological criteria for foodstuffs.** • **Procedures necessary to meet targets set to achieve the objectives of the regulation.** • **Compliance with temperature control requirements for foodstuffs.** • **Maintenance of the cold chain.** • **Sampling and analysis of food.** **Adoption of Criteria and Targets: The criteria, requirements, and targets mentioned in paragraph 3 should be established through a specific procedure as referred to in Article 14(2). Sampling and analysis methods associated with these criteria are also determined through the same procedure.**

GB8956-2016 National Standards for Food Safety specification of Hygienic Practice for the Production of Preserves	EU legislation	Implementing rules and comparative evaluation
		Sampling and Analysis Methods: When this regulation and its implementing measures do not specify sampling or analysis methods, food business operators have the flexibility to use appropriate methods established in other Community or national legislation. In the absence of such methods, they can use methods that yield results equivalent to those of the reference method, provided these alternative methods are scientifically validated according to internationally recognized rules or protocols. **Use of Guides: Food business operators are allowed to utilize the guidance provided in Articles 7, 8, and 9 as tools to help them comply with their obligations under this regulation. These guides can serve as aids in ensuring compliance with hygiene requirements.** Article 5.1. **Food business operators shall put in place, implement and maintain a permanent procedure or procedures based on the HACCP principles.**
14 Records and document management Shall comply with the relevant provisions of Chapter 14 in GB 14881-2013.	Regulation (EC) No 852/2004 on the hygiene of foodstuffs, **Annex I** shall comply with the general hygiene provisions laid down in Part A - **III. RECORD-KEEPING**	Regulation (EC) No 852/2004 on the hygiene of foodstuffs has specific provisions in relation to record-keeping. **III. RECORD-KEEPING** 7. Food business operators are to keep and retain records relating to measures put in place to control hazards in an appropriate manner and for an appropriate period, commensurate with the nature and size of the food business. Food business operators are to make relevant information contained in these records available to the competent authority and receiving food business operators on request. 9. Food business operators producing or harvesting plant products are, in particular, to keep records on: (a) any use of plant protection products and biocides; (b) any occurrence of pests or diseases that may affect the safety of products of plant origin; and (c) the results of any relevant analyses carried out on samples taken from plants or other samples that have importance to human health. 10. The food business operators may be assisted by other persons, such as veterinarians, agronomists and farm technicians, with the keeping of records.

2.9 GB/T 31318-2014 PRESERVED FRUITS-HAWTHORN PRODUCTS

GB/T 31318-2014 Preserved fruits-Hawthorn products[1]	EU legislation	Implementing rules and comparative evaluation
Scope This standard specifies the product classification, technical requirements, test methods, inspection rules, labelling, packaging and storage of candied hawthorn products. This standard applies to directly edible candied hawthorn products made from hawthorn, sugar and/or starch sugar as the main raw materials and processed by cooking, pulping, moulding and drying, or by candied and drying processes.	There is no specific standard in the EU just for this category of preserved fruits. In the European Union (EU), there are various regulations and standards that address the safety and quality of food products, including preserved fruits (so, there are no specific hygiene requirements for Hawthorn products only). See list below.	It is important to emphasize that within the EU, there is no singular standard that directly aligns with the Chinese National Standard for preserved fruits – Hawthorn products. Instead, the EU employs a comprehensive approach, utilizing a combination of regulations and standards to collectively address the safety, quality, and hygiene aspects related to dried fruits. This approach aligns with the overarching objectives presented in the Chinese National Standard GB/T 31318-2014.

[1] Hawthorn products (preserved fruits), refer to food items made from Hawthorn fruit (Crataegus) that have been processed and preserved in various ways to extend their shelf life and enhance their flavor. Hawthorn is a type of fruit commonly found in Europe, Asia, and North America. It is known for its tart and slightly sweet taste and is often used in culinary applications and traditional herbal medicine. Hawthorn products can take several forms, including:

1. Hawthorn Jam or Preserves: Hawthorn fruit can be cooked down with sugar to make jams, preserves, or fruit spreads. These products are used as sweet toppings for bread, toast, pastries, or as ingredients in desserts like tarts or pies.
2. Dried Hawthorn Snacks: Drying Hawthorn fruit removes moisture, preserving the fruit and concentrating its flavors. Dried Hawthorn snacks are often sweetened and may be seasoned with spices like cinnamon. They are consumed as a convenient and tasty snack.
3. Candied Hawthorn: Candying involves cooking Hawthorn fruit with sugar syrup until it becomes crystallized. Candied Hawthorn products are sweet and may be served as confectionery treats.
4. Hawthorn Syrup or Concentrate: Hawthorn syrup is made by extracting the juice from Hawthorn fruit and reducing it into a concentrated form. It can be used as a sweetener or flavoring in various beverages, including teas, cocktails, or desserts.
5. Hawthorn Extracts and Supplements: In addition to culinary uses, Hawthorn is also known for its potential health benefits, particularly for cardiovascular health. Extracts and supplements made from Hawthorn are available in various forms, such as capsules, tinctures, or liquid extracts.
6. Traditional Herbal Remedies: In some traditional herbal medicine systems, Hawthorn fruit is used to make decoctions, teas, or herbal preparations believed to have various health benefits, particularly for heart health.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation

General Food Safety Regulations: Dried fruits must comply with general food safety regulations, including Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs. This regulation covers hygiene, production practices, and facilities.

Good Manufacturing Practices (GMP) and HACCP: The principles of GMP and hazard analysis and critical control points (HACCP) are applied throughout the food industry, including dried fruit production, to ensure quality and safety. Regulation (EC) No 852/2004 on the hygiene of foodstuffs requires all food businesses to implement a HACCP system.

Official Controls: Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, amending Regulations (EC) No 999/2001, (EC) No 396/2005, (EC) No 1069/2009, (EC) No 1107/2009, (EU) No 1151/2012, (EU) No 652/2014, (EU) 2016/429 and (EU) 2016/2031 of the European Parliament and of the Council, Council Regulations (EC) No 1/2005 and (EC) No 1099/2009 and Council Directives 98/58/EC, 1999/74/EC, 2007/43/EC, 2008/119/EC and 2008/120/EC, and repealing Regulations (EC) No 854/2004 and (EC) No 882/2004 of the European Parliament and of the Council, Council Directives 89/608/EEC, 89/662/EEC, 90/425/EEC, 91/496/EEC, 96/23/EC, 96/93/EC and 97/78/EC and Council Decision 92/438/EEC (Official Controls Regulation) (OJ L-95 07/04/2017) (CELEX 32017R0625)

Contaminant Levels for Preserved Fruits: The EU sets maximum levels for contaminants, including mycotoxins and heavy metals (this is applicable for Preserved Fruits too).

6. Council Regulation (EEC) No 315/93 of 8 February 1993 laying down Community procedures for contaminants in food (OJ L-37 13/02/1993) (CELEX 31993R0315)
7. Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006 (OJ L-119 05/05/2023) (CELEX 32023R0915)
8. Commission Regulation (EC) No 1881/2006 of 19 December 2006 setting maximum levels for certain contaminants in foodstuffs (OJ L-364 20/12/2006) (CELEX 32006R1881)
9. Commission Implementing Regulation (EU) 2022/932 of 9 June 2022 on uniform practical arrangements for the performance of official controls as regards contaminants in food, on specific additional content of multi-annual national control plans and specific additional arrangements for their preparation (OJ L-162 17/06/2022) (CELEX 32022R0932)
10. Council Regulation (Euratom) 2016/52 of 15 January 2016 laying down maximum permitted levels of radioactive contamination of food and feed following a nuclear accident or any other case of radiological emergency, and repealing Regulation (Euratom) No 3954/87 and Commission Regulations (Euratom) No 944/89 and (Euratom) No 770/90 (OJ L-13 20/01/2016) (CELEX 32016R0052)

Microbiological Criteria: Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs does apply to preserved fruits. This Regulation establishes microbiological criteria that cover a wide range of foods, including dried fruits. The criteria are designed to ensure the safety and quality of food products, including those that are dried. Microbiological criteria in this context refer to specific standards for microorganisms (bacteria, yeasts, molds, etc.) that are acceptable in food products. These criteria are based on the principles of Hazard Analysis and Critical Control Points (HACCP), which is a systematic approach to identifying and controlling potential hazards in food production processes. When it comes to preserved fruits, the Regulation sets standards for allowable levels of microorganisms that can be present in the product. These standards are established to ensure that preserved fruits are safe for consumption and free from excessive microbial contamination that could pose a health risk to consumers.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation
Labelling and Packaging: The labelling and packaging requirements for preserved fruits – Hawthorn products are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This regulation ensures accurate information about ingredients, allergens, nutritional values, and origin. Also relevant Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP. **Pesticide Residues:** Compliance with maximum residue levels for pesticides is required under Regulation (EC) No 396/2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin. **Food Additives:** The use of food additives in preserved fruits is governed by Regulation (EC) No 1331/2008 on food additives. This regulation establishes permitted additives and their maximum usage levels. It should be also noted that vitamins and minerals can be added to preserved fruits. Fortification, the process of adding essential vitamins and minerals to food products, is a common practice to enhance the nutritional value of foods, including dried fruits. The addition of vitamins and minerals to dried fruits can help address potential nutrient deficiencies and provide consumers with a more nutritious product. Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods, OJ L 404, 30.12.2006, p. 26–38. For imported Preserved Fruit - Hawthorn products - edible candied hawthorn products made from hawthorn, sugar and/or starch sugar as the main raw materials and processed by cooking, pulping, moulding and drying, or by candied and drying processes. **Traceability and Documentation:** Importers need to maintain accurate records and documentation of imported dried fruits, including origin, supplier information, and relevant certificates. **Customs Procedures:** Proper classification, declaration of value, and adherence to tariff codes are essential for customs procedures and smooth importation. Organic Hawthorn products or Hawthorn products with Protected Geographical Indications denominations – special regulation in the EU (yet, all above mentioned hygiene and quality requirements are applicable too).		
3 Product classification According to the production process, they are divided into the following four categories. **3.1 Hawthorn flakes** Hawthorn products made of hawthorn, sugar as the main raw material, through the process of cooking, cooling, pulp, sugar, scraping, baking, forming, including dry flakes and sandwich type. **3.2 Hawthorn cakes** Products made of hawthorn, sugar and/or starch sugar as the main raw materials, through the process of cooking, pulp making and moulding. **3.4 Fructans** Products made of hawthorn, sugar and/or starch sugar as the main raw material, through the process of boiling, pulp making, scraping, baking and forming. For example: fruit tannins, candied sugar gourds, etc.	No comparable EU legal provisions with classification or categories of Hawthorn products. Importers must use the Combined Nomenclature (CN) and the Harmonized System (HS) codes to classify food products for customs and trade purposes.	In the European Union, there isn't a single specific standard that exclusively pertains to Hawthorn products, including edible candied hawthorn products made from hawthorn, sugar, and/or starch sugar as the primary raw materials and processed through various methods such as cooking, pulping, molding, drying, or candying. Instead, the regulation of such products falls under a broader framework of EU food safety and hygiene regulations, standards, and guidelines. The absence of a single specific standard for Hawthorn products means that these products are subject to a set of Regulations and Directives that collectively ensure their safety, quality, and compliance with EU food laws.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation

4 Technical requirements

4.1 Raw and auxiliary material requirements

4.1.1 Hawthorn

Shall conform to the provisions of SB/T 10092.

4.1.2 White granulated sugar

Shall comply with the provisions of GB 317.

4.1.3 Starch sugar

Shall conform to the requirements of GB 15203

4.1.4 Food additives and other raw and auxiliary materials

Shall comply with the provisions of the corresponding national standards or industry standards.

4.2 Sensory requirements

Should comply with the provisions of Table 1.

Table 1 Sensory requirements

Item	Requirements			
	Hawthorn flakes	Hawthorn cakes	Hawthorn Preserved	Fructans
Colour and lustre	The product has the right colour and lustre			
Tissue	Fine tissue, complete in shape and of uniform thickness. The soft slices in the sandwich should be tough and the dry slices have a loose feel	Fine organisation, moderately hard and soft, slightly elastic, in the shape of a cake	The granules are intact, no sugar flow, no sand return	fine tissue, slightly toughness
Taste and smell	Original fruit flavour, sweet and sour, no off-flavour			
Impurities	No foreign impurities visible to normal eyesight			

Regulation (EC) No **852/2004 on the Hygiene of Foodstuffs**, Regulation (EU) No **1169/2011 on food information to consumers**, and others specific to contaminants and additives.

The requirement for Dried Fruits to be free from insects, mold, and odor is in line with the expectations of consumer safety and product quality in the EU. While specific sensory requirements might not be explicitly listed in EU Regulations, they are implicit in the overall requirement that food products, including dried fruits, must be free from defects, contamination, and any characteristics that could pose a risk to consumers. These standards are governed by EU Regulation (EC) No 852/2004 and others specific to contaminants and additives.

The hygiene & technical requirements for hawthorn products made from hawthorn, sugar and/or starch sugar as the main raw materials and processed by cooking, pulping, moulding and drying, or by candied and drying processes, in the EU would be found in **Regulation No 852/2004 on the hygiene of foodstuffs (covering all foodstuffs)**.

This Regulation requires that all food businesses must put in place procedures to control the hygiene of their operations. These procedures must be based on the principles of Hazard Analysis and Critical Control Points (HACCP).

Specifically, for edible Hawthorn products, the following hygiene controls are required:

1. The hawthorn must be sourced from a safe source and must be handled and processed in a hygienic manner.
2. The sugar and/or starch sugar must be of food grade quality.
3. The cooking, pulping, moulding and drying, or candied and drying processes must be carried out in a way that minimizes the risk of contamination.
4. The finished products must be stored in a clean and hygienic environment.
5. In addition to the hygiene requirements, there are also some specific issues with sugar that need to be considered. Sugar can be a source of food poisoning bacteria, such as Salmonella and Listeria. Therefore, it is important to use sugar that is of food grade quality and to handle it in a hygienic manner.

The following are some relevant hygiene controls that can be used to minimize the risk of food poisoning from sugar:

- Use sugar that is of food grade quality.
- Store sugar in a clean and dry place.
- Keep sugar containers closed when not in use.
- Wash your hands thoroughly before and after handling sugar.
- Avoid cross-contamination between sugar and other foods.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation

4.3 Physical and chemical indicators

Shall comply with the provisions of Table 2.

Table 2 Physical and chemical indicators

Item	Requirement				
	Hawthorn flakes		Hawthorn cakes	Hawthorn Preserved	Fructans
	Dried Slices	Sandwich type			
Total sugar (in glucose)/% ≤	85	75	70	70	75
Moisture/% ≤	15	20	50	35	30
Ash content/% ≤	1.5				

4.4 Health indicators

Should comply with the provisions of GB14884.

4.5 Food additives

Should comply with the provisions of GB2760.

4.6 Net content

Shall comply with the provisions of the "Supervision and Administration of Quantitative Packaging Commodity Measurement".

4.7 Production process

Should be in line with the provisions of GB8956.

The requirement for **physico-chemical indicators** to conform to the provisions of Table 1 corresponds to the need for dried fruits to meet established maximum levels for contaminants, mycotoxins, heavy metals, and other physical and chemical attributes. These standards are defined in various EU Regulations, including Regulation Commission **Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food** and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues.

In relation to Microbiological Criteria - Commission Regulation (EC) No **2073/2005 on microbiological criteria for foodstuffs**.

Food Additives: The use of food additives in preserved fruits is governed by Regulation (EC) No 1331/2008 on food additives. This Regulation establishes permitted additives and their maximum usage levels.

Good Manufacturing Practices (GMP) and HACCP: The principles of GMP and hazard analysis and critical control points (HACCP) are applied throughout the food industry, including dried fruit production, to ensure quality and safety. Regulation (EC) No 852/2004 on the hygiene of foodstuffs requires all food businesses to implement a HACCP system.

Provisions of Chinese Standards GB2760 to be assessed in order to provide comparative analyses of regulation of food additives.

Issues of Net Content to be checked in the section with labelling.

In the EU ensuring hygiene, quality and safety of production process is paramount. This is achieved through the implementation of Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Points (HACCP) principles, as mandated by Regulation (EC) No 852/2004, which requires all food businesses, including dried fruit producers, to adopt HACCP systems. Additionally, Regulation (EU) 2017/625 establishes official controls and activities to uphold compliance with food and feed laws, animal health and welfare regulations, and plant health requirements, providing a robust framework for monitoring and enforcing food safety and quality standards in the dried fruit industry.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation
	Official Controls: Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products.	
5 Test methods **5.1 Sensory indicators** According to GB / T 10782-2006 in 6.2 methods of detection. **5.2 Physicochemical indicators** **5.2.1 Total sugar** Detected according to the method stipulated in GB/T 10782-2006, 6.5. **5.2.2 Water content** Tested according to the method specified in GB 5009.3. **5.2.3 Ash** Detected according to the method specified in GB 5009.4. **5.3 Health indicators** Tested according to the methods specified in GB14884. **5.4 Net content** Tested according to the method specified in JJF 1070.	The relevant EU Regulations covering the sensory, physicochemical, health and net content indicators for edible candied hawthorn products are: • Regulation (EC) No 178/2002 on the general food law. This Regulation sets out the general principles of food law, including the requirements for food safety and hygiene. • Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food • Regulation (EC) No 1169/2011 on the provision of food information to consumers.	Sensory Indicators (5.1): In the EU, sensory indicators are important as well, but no specific sensory criteria for food products are outlined in the mentioned applicable Regulations. **Physicochemical Indicators (5.2):** **Total Sugar (5.2.1) & Water Content (5.2.2) & Ash (5.2.3):** The EU Regulation No 1169/2011 on the provision of food information to consumers deals with labelling (including indications of sugar limits, or other indicators in food). This Regulation requires that the total sugar content of pre-packed foods be declared on the label. Reference to sugar would mean “the sum of the monosaccharides and disaccharides, expressed as glucose." This includes sugars that are naturally present in foods, as well as sugars that are added during processing. The Regulation does not specify a single method for measuring sugar content. Instead, it allows food businesses to use the method that is most appropriate for the food in question. It also allows for some flexibility in the way that sugar limits are applied. **Health Indicators (5.3):** The EU follows a comprehensive approach to health indicators. It has specific regulations for microbiological criteria, chemical contaminants, additives, and other factors that impact food safety and consumer health. These regulations are often product-specific and cover a wide range of health-related parameters.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation
		Net Content (5.4): The EU has strict regulations governing net content for packaged food products. These regulations include rules on minimum fill, ensuring that consumers receive the expected quantity of the product. In summary, both China and the EU prioritize food quality and safety through the assessment of sensory, physicochemical, health, and net content indicators. However, their approaches are different: specific regulations, methods, and standards certainly vary between the two regions and are tailored in China to the characteristics of individual food products.
6 Inspection rules **6.1 Batch** The same species, the same batch of feeding, the same production date for a batch of products. **6.2 Sampling** According to GB/T 10782-2006 implementation. **6.3 Ex-factory inspection** 6.3.1 The items of factory inspection include organoleptic index, net content, moisture, total sugar, total bacterial colony and coliform. 6.3.2 Each batch of products should be inspected by the inspection department of the production plant in accordance with the provisions of this standard, and only after the issuance of the product certificate of conformity. **6.4 Type test** 6.4.1 The type test items include all items specified in this standard. 6.4.2 Every six months should be a type test of the product.	**Official Controls:** Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products. **Sampling & Testing** EU Regulation 2073/2005 on microbiological criteria for foodstuffs	Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health, and plant protection products includes provisions related to testing and inspection. Here are some of the key issues that pertain to these activities: Specific Provisions on Sampling and Analysis: Article 34 - Methods used for sampling, analyses, tests and diagnoses 1. Methods used for sampling and for laboratory analyses, tests and diagnoses during official controls and other official activities shall comply with Union rules establishing those methods or the performance criteria for those methods. 2. Samples shall be taken, handled and labelled in such a way as to ensure their legal, scientific and technical validity. EU Regulation (EC) 2073/2005 on microbiological criteria for foodstuffs also has provisions in relation to sampling:

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation
6.4.3 One of the following situations should also be type tested. • Changes in raw materials • Changes in the process • When resuming production after a long period of suspension. • Factory inspection and the last type test has a large difference. • State quality supervision agencies to carry out the type test requirements. **6.5 Judgement rules** 6.5.1 test results of all items meet the provisions of this standard, award the batch of products for qualified products. 6.5.2 test results in the microbiological indicators of one or more does not meet the provisions of this standard, sentenced to the batch of products for substandard products. 6.5.3 In addition to the microbiological indicators in the test results, other items do not meet the provisions of this standard, the original batch of products can be double sampling in the retest once, the retest results all meet the provisions of this standard, the batch is judged to be qualified; retest results, if there is still an indicator of failure, the batch is judged to be unqualified products		**Sampling Plans & Sampling for Control Purposes** Regulation (EC) No 2073/2005 outlines detailed procedures for sampling food products to assess their microbiological quality. It includes guidance on the number of samples to be taken, sampling methods, and sampling frequencies. Competent authorities are empowered to take samples for control purposes, and they may conduct investigations and inspections to ensure compliance with the microbiological criteria. **Methods of Analysis** The regulation specifies the methods to be used for microbiological testing. These methods are typically referenced from recognized international standards, ensuring consistency and reliability in testing procedures. **Responsibilities of Food Business Operators** Food business operators are responsible for ensuring that their products comply with the microbiological criteria. They must regularly monitor and test their products, and if any criteria are exceeded, they must take corrective actions. **Product Testing and Documentation** Food business operators are required to keep records of microbiological testing results, sampling plans, and corrective actions taken. This documentation is essential for traceability and compliance purposes. **Specific Requirements for Certain Products** Given the fact that the EU Regulation applies to much wider range of products, it includes specific microbiological criteria for certain foodstuffs, taking into account the nature of the product and the associated health risks. For example, there are separate criteria for raw milk and dairy products, minced meat, and sprouted seeds. In conclusion a few points to be noted: • **Type Testing Requirement:** • Chinese Standard: "The type test items include all items specified in this standard."

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation
		• EU Regulation: specific regulations define type testing requirements for certain product categories. However, the general principle is that products should comply with applicable regulations, including safety and quality standards. • **Frequency of Type Testing:** - Chinese Standard: "Every six months should be a type test of the product." - EU regulations typically do not specify a fixed frequency for type testing. Instead, they may require manufacturers to conduct regular testing or establish a testing schedule based on risk assessment and product characteristics. • **Circumstances for Additional Type Testing:** • Chinese Standard: Lists several circumstances when additional type testing is required, such as changes in raw materials, process changes, resuming production after suspension, significant differences in factory inspection results, and requirements from state quality supervision agencies. • EU regulations may require manufacturers to re-evaluate and potentially retest their products in cases of significant changes in product composition, manufacturing processes, or other factors that may affect product safety or compliance. State or competent authorities may also initiate testing or inspections as needed for regulatory compliance. As to the Judgment Rules Based on Testing Results: • Chinese Standard: "Test results of all items meet the provisions of this standard, award the batch of products for qualified products." • In the EU, compliance with mentioned Regulations is required. If all testing results for a batch meet the relevant EU requirements.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation
		• **Microbiological Indicator Non-Compliance:** EU regulations also set microbiological criteria for certain food products. If the microbiological indicators in a batch of products do not meet the specified criteria, the batch may be considered non-compliant and may be subject to regulatory actions, which can include recalls or withdrawal from the market. • **Retesting for Non-Microbiological Non-Compliance:** EU Regulations do not typically include provisions for retesting of non-microbiological indicators. If non-microbiological testing results do not meet the relevant standards, the batch is generally considered non-compliant without an option for retesting.
7 Labelling The label of pre-packaged products should comply with the provisions of GB 7718, GB 28050.	**Labelling:** The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This Regulation ensures accurate information about ingredients, allergens, nutritional values, and origin.	This appears to be outside the scope of the Chinese Standard, as general reference is made to another standard. See references provided above on the labelling of food in the EU.
8 Packaging The packaging materials shall comply with the provisions of the corresponding national or industry standards.	**Packaging:** Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP. In relation to packaging used for dried fruit, the following can be outlined:	This appears to be outside the scope of the Chinese Standard, as general reference is made to corresponding health standards and regulations.

GB/T 31318-2014 Preserved fruits-Hawthorn products	EU legislation	Implementing rules and comparative evaluation
9 Storage Should comply with the provisions of GB8956.	Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs sets out general hygiene requirements for food businesses throughout the food supply chain, including storage. It includes provisions related to temperature control, cleanliness, and pest control in storage facilities.	This appears to be outside the scope of the Chinese Standard, as general reference is made to corresponding health standards and regulations. Here are some key storage provisions for food in the EU (Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs): ➢ Temperature Control: ➢ Hygiene and Cleanliness: ➢ Storage facilities must meet strict hygiene standards to prevent contamination of food products. ➢ Regular cleaning and sanitation of storage areas, equipment, and containers are essential. ➢ Pest control measures should be in place to prevent infestations. ➢ Packaging & Separation of Products: o Food products should be stored in a way that prevents cross-contamination. For example, raw and cooked foods should be stored separately. o Allergenic ingredients must be stored separately to avoid accidental cross-contact. ➢ Traceability & Storage Records ➢ Effective traceability systems must be in place to track the movement of food products within the supply chain, making it possible to identify the source of any quality or safety issues. ➢ Accurate records of storage conditions, including temperature logs, should be maintained. ➢ These records help demonstrate compliance with storage requirements and can be crucial in case of product recalls or quality issues. ➢ Shelf-Life Management o Food businesses must monitor the shelf life of products in storage to ensure that products are not sold beyond their expiration dates. o First-in, first-out (FIFO) or similar stock rotation systems should be implemented to use older products before newer ones. ➢ Emergency Plans for Storage Facilities o Food businesses should have contingency plans in place to respond to emergencies, such as power outages or equipment failures, to prevent food spoilage.

2.10 GB/T 10782-2021 GENERAL RULE FOR THE QUALITY OF PRESERVED FRUITS

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
Scope This document specifies the terms and definitions of preserves, product classification, raw and auxiliary materials, technical requirements, test methods, inspection rules, labelling and marking, packaging, storage and transport, sales and other quality requirements. This document applies to all types of preserves products.	**Regulation (EC) No 852/2004** **Regulation (EU) No 1169/2011** Regulation (EU) No 1308/2013 Regulation (EU) No 543/2011 **Regulation (EC) No 1333/2008 on food additives**. See below.	In the EU, there is no single Regulation that covers just preserved fruits and similar products, this would generally fall under the framework of food safety regulations, food labelling regulations, and specific product standards (see extracts of the Regulation 543/2011 with general minimum requirements for fruits and vegetables – fresh and processed). These regulations ensure that preserved fruits meet the required safety and quality standards before they can be placed on the EU market.

Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs: This regulation sets out general hygiene requirements for food businesses and includes provisions related to the production and handling of preserved fruits.

Regulation (EU) No 1169/2011 on Food Information to Consumers: This regulation specifies requirements for food labelling, including the mandatory information that must be provided to consumers on food labels.

Regulation (EC) No 1333/2008 on food additives. This Regulation establishes rules for the authorization and use of food additives, including preservatives, in food products sold within the EU.

Annex I to the Regulation contains among others definition of 'preservatives' are substances which prolong the shelf-life of foods by protecting them against deterioration caused by micro-organisms and/or which protect against growth of pathogenic micro-organisms;

Key points regarding food preservatives in the EU regulation on food additives include:

Safety Assessment: Before a food preservative can be authorized for use in the EU, it must undergo a safety assessment by the European Food Safety Authority (EFSA). The EFSA evaluates scientific data to determine the safety of the additive for consumers.

Authorized Preservatives: Food preservatives are listed in Annex II of Regulation (EC) No 1333/2008. Each preservative is assigned an E-number, which is used to identify it. For example, E202 represents potassium sorbate, a common food preservative.

Maximum Allowable Limits: The regulation specifies the maximum allowable levels (maximum permitted levels or MPLs) for each authorized food preservative in various food categories. These MPLs are designed to ensure that the use of preservatives does not pose health risks to consumers.

Labelling Requirements: Food products containing food preservatives must be labelled with the name or E-number of the preservative used, so consumers are informed about their presence in the product.

Revision and Re-evaluation: The regulation is periodically reviewed and updated to reflect new scientific evidence or changes in food safety standards. If new information arises that suggests a safety concern with a specific preservative, it can be re-evaluated, and its authorization may be modified or revoked.

Acceptable Daily Intake (ADI): Each food preservative is assigned an ADI, which represents the amount of the additive that can be consumed daily over a lifetime without appreciable health risk.

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007 OJ L 347, 20.12.2013, p. 671–854; also EU https://trade.ec.europa.eu/access-to-markets/en/content/classifying-edible-fruit-and-nuts COMMISSION IMPLEMENTING REGULATION (EU) No 543/2011 of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors		
3 Terminology and definitions The following terms and definitions apply to this document. 3.1 **preserved fruit** Products made from fruit and vegetables, etc., with (or without) the addition of food additives and other auxiliary ingredients, and cured (or not) by sugar or honey or salt.	**Regulation (EC) No 1333/2008 on food additives**. See below.	There is no comparable definition to be found in the EU legal; but classification of products to be found at https://trade.ec.europa.eu/access-to-markets/en/content/classifying-edible-fruit-and-nuts
4 Product classification **4.1 Preserves** Products made from raw materials in a wet state (or semi-dry state with icing) by processes such as sugar (or honey) pickling and/or salting, drying (or not). **4.2 Dried fruit** Products made from raw materials that are slightly transparent and have no (or slightly) frosted sugar on the surface, through processes such as canning and drying. **4.3 Cold fruits** Semi-dry products made from raw materials by salting, canning, drying, etc. **4.4 Fruits** Dry products made from raw materials by salting, candied (or not), drying and other processes, divided into two categories: unsweetened and sweetened. **4.5 Fruit cakes** Raw materials processed into sauce or powder, by forming, drying (or not) and other processes made of products, divided into cakes, strips (fruit Danpi) class, slices and Dan class.	COMMISSION IMPLEMENTING REGULATION (EU) No 543/2011 of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors	No comparable product classification, see comment above.

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
4.6 Other categories Preserved products other than those listed above.		
5 Raw and auxiliary materials Shall conform to the provisions of relevant national standards or industry standards. **6 Technical requirements** **6.1 Sensory requirements** With the proper form, colour, organisation, taste and smell of the species, no bad taste, no mould, no impurities, sugar and salt crystals are allowed to precipitate. **6.2 Physical and chemical indicators** Shall conform to the provisions of Table 1.	COMMISSION IMPLEMENTING REGULATION (EU) No 543/2011 of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors Annex A – see below	The EU comparable provisions in relation to quality standards for agricultural products, particularly fruits and vegetables (fresh or processed to be found in Regulation 543/2011). Here's a summary of these provisions: **Minimum Requirements:** • Products must be intact, meaning they should not be damaged or broken. • They must be sound, with no signs of rotting or deterioration that would render them unfit for consumption. • Products should be clean and practically free of any visible foreign matter. • They must be practically free from pests. • The products should be free from damage caused by pests that affect the flesh. • They should be free of abnormal external moisture. • They must be free of any foreign smell and/or taste. • The products should be in a condition that allows them to withstand transportation and handling and arrive at their destination in satisfactory condition. **Minimum Maturity Requirements:** • The products must be sufficiently developed but not overdeveloped. • Fruits should exhibit satisfactory ripeness and should not be overripe. • The development and state of maturity should allow the products to continue ripening and reach a satisfactory degree of ripeness.

Table 1 Physical and chemical indicators

Item	Honey mooney	Dried fruit	Cold Fruits	Conversation and chemistry class		Fruit cake				Others
				Unsweetened	Sweetened	Cake	Bars	Flakes	Dan	
Moisture／(g/100g) ≤	-	35	35	30	30	55	30	20	-	-
Total sugar (in glucose)/(g/100g) ≤	85	85	70	6	60	75	70	80	70	85
Sodium chloride (as NaCl) /(g/100g) ≤	20	-	8	35	15	-	-	-	18	10

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
6.3 Net content The net content requirements are described in the "Supervision and Management Measures for the Measurement of Quantitative Packaged Goods".		**Tolerance:** A tolerance of 10% by number or weight of the product not meeting the minimum quality requirements is permitted in each lot. Within this tolerance, not more than 2% in total may consist of produce affected by decay. This means that a small percentage of the products in a lot can deviate from the specified quality standards, but only to a limited extent. These provisions are common in agricultural quality standards and are often used to ensure that products meet certain quality criteria for freshness, appearance, and edibility. These standards are important for trade and consumer protection, helping to maintain consistency and quality in agricultural products that are distributed and consumed. It's essential for producers, distributors, and regulatory authorities to adhere to these standards to ensure fair trade practices and food safety. Specific provisions for moisture content, total sugar content, and sodium chloride content in fruit cakes in the European Union (EU) are typically not found in the EU regulations that govern generally hygiene of all food products.

Regulation 543/2011 of 7 June 2011 lays down implementing rules for Regulation 1234/2007 **as regards the fruit and vegetables and processed fruit and vegetables sectors (so, quality of preserved fruits will be covered)**. TITLE II - **CLASSIFICATION OF PRODUCTS**

CHAPTER I

General rules

Article 3

Marketing standards; holders

1.The requirements of Article 113a(1) of Regulation (EC) No 1234/2007 shall be the general marketing standard. The details of the general marketing standard are set out in Part A of Annex I to this Regulation.

Fruit and vegetables not covered by a specific marketing standard shall conform to the general marketing standard. However, where the holder is able to show that the products are in conformity with any applicable standards adopted by the United Nations Economic Commission for Europe (UNECE), they shall be considered as conforming to the general marketing standard.

2. The specific marketing standards referred to in Article 113(1)(b) of Regulation (EC) No 1234/2007 are set out in Part B of Annex I to this Regulation as regards the following products:

a) apples,
b) citrus fruit,
c) kiwifruit,
d) lettuces, curled leaved and broad-leaved endives,

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e) peaches and nectarines,
f) pears,
g) strawberries,
h) sweet peppers,
i) table grapes,
j) tomatoes.

3. For the purposes of Article 113a(3) of Regulation (EC) No 1234/2007, 'holder' means any natural or legal person who is in physical possession of the products concerned.

Annex I - MARKETING STANDARDS REFERRED TO IN ARTICLE 3

PART A

General marketing standard

The purpose of this general marketing standard is to define the quality requirements for fruit and vegetables, after preparation and packaging.
However, at stages following dispatch products may show in relation to the requirements of the standard:

— a slight lack of freshness and turgidity,
— a slight deterioration due to their development and their tendency to perish.

*1. **Minimum requirements***

Subject to the tolerances allowed, the products shall be:

— intact,
— sound; products affected by rotting or deterioration such as to make them unfit for consumption are excluded,
— clean, practically free of any visible foreign matter,
— practically free from pests,
— free from damage caused by pests affecting the flesh,
— free of abnormal external moisture,
— free of any foreign smell and/or taste.

The condition of the products must be such as to enable them:

— to withstand transportation and handling,
— to arrive in satisfactory condition at the place of destination.

*2. **Minimum maturity requirements***

The products must be sufficiently developed, but not overdeveloped, and fruit must display satisfactory ripeness and must not be overripe.
The development and state of maturity of the products must be such as to enable them to continue their ripening process and to reach a satisfactory degree of ripeness.

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3. ***Tolerance***		
A tolerance of 10 % by number or weight of product not satisfying the minimum quality requirements shall be permitted in each lot. Within this tolerance not more than 2 per cent in total may consist of produce affected by decay.		
4. ***Marking***		
Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.		
7 Test methods **7.1 Sample processing** Weigh approximately 200g of the edible portion of the sample, cut, chopped or pounded, mixed thoroughly and packed into a dry, ground-mouth sample bottle. If there is a dip type sample should be drained with a suitable round sieve before weighing the sample (1 min after the draining brine is broken). **7.2 Sensory** **7.2.1 Colour, form, impurities** The samples are placed in a white enamel dish and observed directly with the naked eye in natural light. **7.2.2 Tissue** The sample is cut open with a stainless steel knife and the internal organisation is examined visually, by hand and by mouth. **7.2.3 Taste and odour** Smell the odour and taste the taste. **7.3 Moisture** Determine according to the method specified in GB 5009.3. **7.4 Total sugar**	Regulation (EC) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives OJ L 354, 31.12.2008, p. 16–33 Regulation (EC) No 2073/2005 establishes microbiological criteria for various foodstuffs Council Regulation (EEC) No 315/93 of 8 February 1993 laying down Community procedures for contaminants in food (OJ L-37 13/02/1993) Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006 (OJ L-119 05/05/2023) CODEX STANDARD FOR SUGARS CODEX STAN 212-1999	Commission Regulation (EU) No 1333/2008 on food additives: This regulation specifies the methods for the analysis of food additives. The method for the analysis of glucose is likely to be relevant to the calculation of total sugar content. Regulation (EC) No 2073/2005 establishes microbiological criteria for various foodstuffs in the European Union (including fruits and nuts, which can be treated with ionising radiation). These criteria are designed to ensure food safety by specifying acceptable levels of microorganisms, pathogens, and hygiene indicators in different types of food products. The Regulation sets out standards for assessing the microbiological quality of foodstuffs and includes provisions related to sampling and testing. So differences in approaches are the following: **6. Scope** EU Regulation 2073/2005 on microbiological criteria for foodstuffs applies to a wide range of foodstuffs, including ready-to-eat foods, meat products, dairy products, fishery products, and more. It covers both primary production (e.g., farming) and post-harvest stages (e.g., processing and distribution) of food production. **1. Microbiological Criteria** The Regulation defines specific microbiological criteria for different types of microorganisms, including pathogens and hygiene indicators. These criteria specify the maximum acceptable levels of microorganisms in food products. **2. Pathogenic Bacteria** The Regulation sets criteria for pathogens like Salmonella and Listeria monocytogenes, which can cause foodborne illnesses. It establishes limits on the presence of these pathogens in foodstuffs, especially in products where their presence is a significant concern.

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7.4.1 Principle The original and hydrolysed sugar in the sample is reductive and it can reduce the Felling reagent to produce red cuprous oxide. **7.4.2 Reagents and materials** Unless otherwise stated, the reagents used in this method are analytically pure and the water is tertiary water as specified in GB/T 6682. 7.4.2.1 Hydrochloric acid (mass fraction 36.0 % to 38.0 %; density 1.18 g/cm at 20°C). 7.4.2.2 Sodium hydroxide solution (30g/L): weigh 3g of sodium hydroxide, add water to dissolve, let cool, add water and fix the volume to 100mL. 7.4.2.3 Methyl red indicator (1g/L): weigh 0.1g of methyl red, dissolve in 95% (v/v) ethanol and fix the volume to 100mL. 7.4.2.4 Felling reagent A solution: weigh 15 g of copper sulphate and 0.05 g of hypomethylene blue, dissolve in water and allow to reach 1000 mL. 7.4.2.5 Felling's Reagent B: 50 g of potassium sodium tartrate, 75 g of sodium hydroxide and 4 g of potassium ferricyanide, dissolved in water and allowed to reach 1000 mL, stored in a rubber stoppered glass bottle. **7.4.3 Reference Standards** 7.4.3.1 Glucose (CAS No.: 50-99-7) standard: purity > 99%. 7.4.3.2 Glucose standard solution (1.0mg/mL): weigh accurately 0.25g (accurate to 0.0001g) of glucose dried to a constant weight at 98°C~100°C, dissolve in water, add 5mL of hydrochloric acid and fix with water to 250mL. This solution is equivalent to 1.0mg of glucose per mL.	1. SCOPE AND DESCRIPTION This Standard applies to the following sugars intended for human consumption without further processing. It includes sugars sold directly to the final consumer and sugars used as ingredients in foodstuffs. As to the sampling and test methods: relevant EU Regulations Regulation (EU) 2017/644 laying down methods of sampling and analysis for the control of levels of dioxins, dioxin-like PCBs and non-dioxin-like PCBs in certain foodstuffs Regulation (EU) 2015/705 laying down methods of sampling and performance criteria for the methods of analysis for the official control of the levels of erucic acid in foodstuffs Regulation (EC) No 333/2007 laying down the methods of sampling and analysis for the control of the levels of trace elements and processing contaminants in foodstuffs Regulation (EC) No 401/2006 laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs	**3. Hygiene Indicators** Microbiological criteria also include hygiene indicators such as total viable counts (TVC) and Enterobacteriaceae. These indicators are used to assess the general microbiological quality of food products and to evaluate the effectiveness of hygiene practices. **4. Sampling Plans & Sampling for Control Purposes** Regulation (EC) No 2073/2005 outlines detailed procedures for sampling food products to assess their microbiological quality. It includes guidance on the number of samples to be taken, sampling methods, and sampling frequencies. Competent authorities are empowered to take samples for control purposes, and they may conduct investigations and inspections to ensure compliance with the microbiological criteria. **5. Methods of Analysis** The regulation specifies the methods to be used for microbiological testing. These methods are typically referenced from recognized international standards, ensuring consistency and reliability in testing procedures. **6. Responsibilities of Food Business Operators** Food business operators are responsible for ensuring that their products comply with the microbiological criteria. They must regularly monitor and test their products, and if any criteria are exceeded, they must take corrective actions.

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
7.4.4 Apparatus 7.4.4.1 Balance: 0.1mg sensitivity. 7.4.4.2 Constant temperature water bath. 7.4.4.3 Adjustable temperature electric oven. 7.4.4.4 High-speed tissue masher. 7.4.4.5 Acid burette: 25mL. **7.4.5 Analytical procedures** **7.4.5.1 Specimen processing** Weigh 10 g (accurate to 0.001 g) of the treated specimen (7.1), soak it in water for 1 h to 2 h, put it into a high-speed tissue masher and mash it with a small amount of water, then transfer it all to a 250 mL volumetric flask, fix the volume with water to the scale, shake well, filter and reserve the filtrate as the sample treatment solution. **7.4.5.2 Acid hydrolysis** Accurately draw 10.00 mL of the sample solution (7.4.5.1) into a 250 mL conical flask, add 30 mL of water and 5 mL of hydrochloric acid, heat in a water bath at 68℃～70℃ for 10 min, then cool to room temperature with running water, transfer all to a 250 mL volumetric flask, add 2 drops of 1 g/L methyl red indicator, then neutralise with 30 g/L sodium hydroxide solution to neutral, dilute with water and set the volume to the scale. Dilute and set the volume to the scale with water, shake well and reserve as the sample solution. **7.4.5.3 Felling reagent calibration** Add 5.00mL of each of Felling's reagent A and B into a 150mL conical flask, add 10mL of water, add several glass beads, add about 9mL of glucose standard solution dropwise from the burette, control the heating to boiling within 2min, add glucose standard solution dropwise at a rate of 1 drop every 2 seconds while boiling, titrate until the blue colour fades out. Record the total volume of glucose standard solution consumed. Simultaneously operate three times in parallel, take the average and calculate the mass of glucose equivalent per 10.00mL of Felling's reagent mixture (5.00mL each of Felling's reagent A and Felling's reagent B). The calculation is given in equation (1).		**7. Product Testing and Documentation** Food business operators are required to keep records of microbiological testing results, sampling plans, and corrective actions taken. This documentation is essential for traceability and compliance purposes. **8. Specific Requirements for Certain Products** Given the fact that the EU Regulation applies to much wider range of products, it includes specific microbiological criteria for certain foodstuffs, taking into account the nature of the product and the associated health risks. For example, there are separate criteria for raw milk and dairy products, minced meat, and sprouted seeds. **Methods of sampling and analysis for the control of levels of certain contaminants in foodstuffs in the EU** Regulation (EU) 2017/644 laying down methods of sampling and analysis for the control of levels of dioxins, dioxin-like PCBs and non-dioxin-like PCBs in certain foodstuffs Regulation (EU) 2015/705 laying down methods of sampling and performance criteria for the methods of analysis for the official control of the levels of erucic acid in foodstuffs Regulation (EC) No 333/2007 laying down the methods of sampling and analysis for the control of the levels of trace elements and processing contaminants in foodstuffs Regulation (EC) No 401/2006 laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs

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Where. M - mass of glucose equivalent to 10 mL of Felling's reagent mixture in grams (g). M_0 -mass of glucose in grams (g) V_0 - the volume of glucose standard solution consumed during the titration, in millilitres (mL)250 - the total volume of the glucose standard solution in millilitres (mL). **7.4.5.4 Predictive titration of the sample solution** The end point is reached when 5.00 mL of each of Felling's reagent A and Felling's reagent B are accurately drawn into a 150 mL conical flask, 10 mL of water is added, several glass beads are added and heated to boiling on an electric stove, and the sample solution is dripped from the burette until the blue colour disappears completely, and the volume of sample solution consumed for the titration is recorded. **7.4.5.5 Precise titration of the sample solution** Accurately draw 5.00mL of each of Felling reagent A and Felling reagent B into a 150mL conical flask, add 10mL of $M = \frac{m_0 \times V_0}{250}$ ……(1) water, add several glass beads, discharge 1mL less of the sample solution from the burette than the predicted titration test, heat and boil for 1min, then drop in the sample solution at a rate of 1 drop per 2 seconds until the blue colour fades completely, this is the end point, note down the volume of sample solution consumed. Do this twice in parallel.		

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
7.4.6 Calculation The total sugar (in terms of glucose) content of the sample is calculated according to grams (g/100g) V_1 - volume of sample volume, in ml (mL) V_2 - volume of sample treatment liquid in ml (mL) V_3 - volume of the sample after hydrolysis fixation (total volume of the sample solution), in millilitres (mL). M - the mass of glucose equivalent to 10 mL of the Felling reagent mixture, in grams (g) M - mass of the specimen in grams (g). V - the volume of the specimen solution consumed during the titration, in millilitres (mL). 100 - conversion factor. If the total sugar content is ≥10g/100g, the calculation result is retained in three significant figures; if the total sugar content is <10g/100g, the calculation result is retained in two significant figures. **7.4.7 Permissible differences** The absolute difference between the results of two independent determinations obtained under reproducible conditions shall not exceed 5% of the arithmetic mean. **7.5 Sodium chloride** Measured according to the method specified in GB 5009.44, the conversion multiplier between the sodium chloride content (in NaCl) and the chloride content (in Cl-) in the product is 1.65. **7.6 Net content** In accordance with the relevant provisions of JJF 1070.		

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
8.2 Sampling method and sample size Samples should be taken at random from the production line or finished goods store, and the number of samples taken should meet the needs of inspection and retention. **8.3 Factory inspection** 8.3.1 Each batch of product shall be inspected by the inspection department of the production plant in accordance with the provisions of this document, and the product shall not leave the factory until it is qualified. 8.3.2 The items to be tested at the factory include sensory requirements, net content, total sugar and sodium chloride. **8.4 Type inspection** 8.4.1 Every six months should be a type test of the product, one of the following circumstances should occur type test. (a) new products when the trial identification. (b) formal production, such as raw materials, processes have a large change, may affect product quality. (c) resumed production after a long hiatus. (d) factory test results and the last type test results have a large difference. (e) the relevant national regulatory bodies to carry out the type test requirements. 8.4.2 Type test items include all items specified in this document.	Official Control Regulation (EU) 2017/625 of the European Parliament and of the Council	**See below – evaluation of inspections & laboratory testing**

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
8.5 Judgement rules 8.5.1 factory inspection rules: factory inspection items all in line with this document, the batch is judged to be in line with this document, factory inspection items such as failure, double sampling in the original batch of products for retesting, retesting is still unqualified, the batch is judged not to meet this document. 8.5.2 Type test rules: type test items all in line with this document, determine the type test in line with this document. If the type test fails, the original batch of products in the double sampling retest, retest still fails, the type test is judged not to meet the document.		

Regulation (EU) 2017/625 of the European Parliament and of the Council, often referred to as the "Official Controls Regulation," establishes a comprehensive framework for official controls and activities performed to ensure the application of various laws related to food, feed, animal health, animal welfare, plant health, and plant protection products within the EU. The Regulation includes provisions related to inspections. Some of the major provisions regarding inspections under this Regulation include:

- **Risk-Based Approach:** The regulation emphasizes the importance of a risk-based approach to inspections. Competent authorities are required to prioritize their inspection activities based on the assessed risks associated with different operators and products. This ensures that resources are allocated effectively to areas with the highest potential risk to public health and safety.
- **Frequency of Inspections:** The regulation specifies that competent authorities should conduct inspections at regular intervals, taking into account the risk factors associated with the operators and products. High-risk operators and products may be subject to more frequent inspections.
- **Unannounced Inspections:** Competent authorities are empowered to conduct unannounced inspections when necessary, especially in cases where advance notice might undermine the effectiveness of the inspection. This is particularly important for ensuring the integrity of control measures.
- **Inspection Procedures:** The regulation outlines the procedures for conducting inspections, including how inspections should be planned, executed, and documented. It also covers the use of sampling and testing as part of the inspection process.
- **Powers of Inspectors**: Inspectors have the authority to access premises, documents, and records relevant to their inspection. They can take samples, request information, and interview personnel as needed to carry out their duties.
- **Cooperation and Coordination:** The regulation promotes cooperation and coordination among EU Member States to ensure consistency and effectiveness in carrying out inspections. This includes sharing information and coordinating cross-border inspections when necessary.
- **Enforcement Measures:** The regulation sets out measures that competent authorities can take in response to non-compliance or violations identified during inspections. These measures may include corrective actions, suspension of operations, and withdrawal of approvals.
- **Import Controls**: The regulation includes provisions for inspections of imported food and feed to ensure that they comply with EU standards. Competent authorities are responsible for verifying the safety and compliance of imported products.
- **Documentation and Reporting:** Detailed records of inspections, findings, and enforcement actions must be maintained by competent authorities. They are also required to report relevant information to the European Commission and other Member States.

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
It can be seen that EU approach is comprehensive and risk based. The provisions within Regulation (EU) 2017/625 are designed to enhance the efficiency and effectiveness of official controls and inspections related to food safety, animal health, animal welfare, plant health, and plant protection products within the European Union. The Regulation aims to ensure a high level of protection for consumers and the environment while facilitating the functioning of the internal market for these products. The Chinese Standard is rather brief, but more importantly, it does not take into account the major principle – risk-based approach. **The approach described in the Chinese Standards does not appear to be based on a risk.** Instead, it outlines a systematic approach to product inspection and type testing, which is a more traditional and uniform method of quality control. Here are some key points that indicate it is not primarily risk-based: **Routine Batch Inspection:** The text mentions that each batch of the product shall be inspected at the production plant, and the product cannot leave the factory until it is qualified. This suggests that every batch goes through inspection, regardless of the perceived risk associated with the product or process. In a risk-based approach, resources are typically allocated based on the assessed level of risk, meaning higher-risk products or processes receive more scrutiny. **Specific Inspection Items:** The items to be tested at the factory are listed, including sensory requirements, net content, total sugar, and sodium chloride. These items are specified without apparent consideration of whether they are critical for safety or quality. A risk-based approach (as in the EU) would prioritize testing items that pose higher risks to consumers or the product's quality. **Type Testing Frequency:** The Standard mandates type testing every six months, with specific circumstances triggering type testing. While some of these circumstances may indirectly relate to risk (e.g., changes in raw materials or processes), the frequency of type testing is fixed and not adjusted based on changing risk factors. To be noted that risk-based approaches typically adjust the frequency and intensity of testing based on the assessed risk. **Uniform Testing Requirements:** Type test items are listed as including "all items specified in this document." This implies a one-size-fits-all approach rather than tailoring the testing requirements to the specific risks associated with each product or process.		
9 Labelling and marking 9.1 The label of the product shall indicate the product category, such as: preserves, dried fruit, cold fruit, conversation (unsweetened or sweetened), fruit cakes [cakes or strips (fruit tannins) or slices or tannins], other categories. 9.2 The trade name of a preserved product may use the traditional name, but the true attributes of the product shall be indicated in parentheses after the trade name. 9.3 Storage and transportation iconic signs should comply with the provisions of GB / T191.	The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers	

GB/T 10782-2021 General rule for the quality of preserved fruits	EU legislation	Implementing rules and comparative evaluation
Labelling: The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This Regulation ensures accurate information about ingredients, allergens, nutritional values, and origin. Here are the general labelling requirements for all food products, but which will apply to preserved fruit in the EU: **Name of the Food** - The common name of the dried fruit must be clearly indicated on the label. For example, "Dried Apricots," "Raisins," etc. **List of Ingredients** - All ingredients used in the dried fruit product, including any additives or processing aids, must be listed in descending order of weight. Allergen Information: If the preserved fruit contains any of the 14 allergens listed in Annex II of Regulation (EU) No 1169/2011 (such as nuts, soy, gluten, etc.), these allergens must be highlighted in the ingredients list. Additionally, the presence of allergens must be indicated in a separate allergen statement. **Net Quantity**: The quantity of the fruit product must be stated in terms of weight (e.g., grams or kilograms). **Date of Minimum Durability or Use By Date: P**roducts must have either a "best before" date or a "use by" date, depending on the nature of the product. The date must be clear and easy to read. **Storage Instructions:** Storage conditions for the dried fruit, such as "Store in a cool, dry place," should be provided to ensure the product's quality and safety. **Country of Origin or Place of Provenance:** The country of origin or place of provenance of the fruit must be indicated on the label. This is important for transparency and consumer choice. **Instructions for Use:** If there are specific instructions for using or preparing the fruit, they should be provided on the label. **Nutrition Declaration:** The nutrition information per 100g (or 100ml) of the product must be provided, including energy value, fat, saturated fat, carbohydrates, sugars, protein, and salt. **Additional Information:** Additional information, for example, any claims related to the product's characteristics (e.g., "organic," "gluten-free"), must comply with EU Regulations and not be misleading. Specific product claims, nutritional information, and other requirements might apply based on the characteristics of the preserved fruit and the nature of the product. In summary, labelling is an integral part of food safety and hygiene requirements and should be considered as part of the Hygiene Requirements for Preserved Fruit. So, lacking labelling requirements for Preserved Fruit would undermine the consumer protection, not having access to accurate and relevant information about the food they are purchasing and consuming, helping them make informed choices and reducing the risk of health issues related to allergens, nutritional content, and improper handling.		
10 Packaging 10.1 Packaging materials and containers shall conform to the provisions of relevant national standards or industry standards. 10.2 The packaging shall be complete, tight and free from damage.	Regulation (EC) No 1935/2004 Regulation (EU) No 10/2011	

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Packaging: Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP.

Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food

OJ L 12, 15.1.2011, p. 1–8.

The EU has regulation that cover various aspects of food packaging. Here are some of the key EU requirements for food packaging:

Materials and Articles Intended to Come into Contact with Food: Regulation (EC) No 1935/2004 lays down the general principles and requirements for materials and articles intended to come into contact with food. This regulation ensures that food contact materials do not transfer harmful substances to the food and do not alter the organoleptic characteristics of the food.

Specific Regulations for Plastic Materials: Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food, OJ L 12, 15.1.2011, p. 1–89 - sets specific rules for plastic materials and articles intended to come into contact with food. It establishes guidelines for the use of plastic materials in food packaging and includes provisions for active and intelligent packaging.

Traceability: Packaging materials and articles must be traceable, and the identity of the supplier must be known to allow for recalls if necessary. This requirement is essential for ensuring the safety of food products.

Declaration of Compliance: Manufacturers and suppliers of food packaging materials must provide a declaration of compliance with EU regulations. This declaration confirms that the packaging materials meet the necessary safety requirements.

Migration Limits: Specific migration limits are established for certain substances used in food packaging, such as heavy metals, phthalates, and other potentially harmful substances. These limits ensure that packaging materials do not release harmful chemicals into food.

Labelling: Packaging materials must be labelled with essential information, including the materials used, the name and address of the manufacturer, and any specific instructions for use.

Recycling and Environmental Requirements: The EU promotes environmentally friendly packaging and encourages the use of recyclable materials. Regulations and directives related to packaging waste management set targets for recycling and reducing the environmental impact of packaging.

Novel Food Contact Materials: Novel food contact materials, which have not been previously used for food packaging in the EU, require specific authorization and safety assessment before they can be used.

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11 Storage and transportation 11.1 The products shall be stored under environmental conditions of temperature and humidity appropriate to them. If necessary, the warehouse shall be equipped with temperature and humidity control devices. 11.2 The products shall be stacked on pallets, not less than 10 cm from the ground and from the walls. 11.3 The product shall be transported in accordance with the temperature and humidity conditions appropriate for the product and shall not be mixed with toxic, harmful or odorous substances. **12 Sale** The product should be sold in an environment with suitable temperature and humidity.	Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs	

Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs sets out general hygiene requirements for food businesses throughout the food supply chain, including transport & storage & sale. It includes provisions related to temperature control, cleanliness, and pest control in storage facilities.

Good Manufacturing Practices (GMP) and HACCP: The principles of GMP and hazard analysis and critical control points (HACCP) are applied throughout the food industry, including dried fruit production, to ensure quality and safety. Regulation (EC) No 852/2004 on the hygiene of foodstuffs requires all food businesses to implement a HACCP system.

Here are some key storage provisions for food in the EU (Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs):

- Temperature Control:
- Hygiene and Cleanliness:
  - Storage facilities must meet strict hygiene standards to prevent contamination of food products.
  - Regular cleaning and sanitation of storage areas, equipment, and containers are essential.
  - Pest control measures should be in place to prevent infestations.
- Packaging & Separation of Products:
  - Food products should be stored in a way that prevents cross-contamination. For example, raw and cooked foods should be stored separately.
  - Allergenic ingredients must be stored separately to avoid accidental cross-contact.

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- Traceability & Storage Records
  - Effective traceability systems must be in place to track the movement of food products within the supply chain, making it possible to identify the source of any quality or safety issues.
  - Accurate records of storage conditions, including temperature logs, should be maintained.
  - These records help demonstrate compliance with storage requirements and can be crucial in case of product recalls or quality issues.
- Shelf-Life Management
  - Food businesses must monitor the shelf life of products in storage to ensure that products are not sold beyond their expiration dates.
  - First-in, first-out (FIFO) or similar stock rotation systems should be implemented to use older products before newer ones.
- Emergency Plans for Storage Facilities

Food businesses should have contingency plans in place to respond to emergencies, such as power outages or equipment failures, to prevent food spoilage.

For transport in addition to outlined above:

Vehicle Design and Maintenance: Vehicles used for food transport must be designed and maintained to ensure the safe and sanitary transport of food products. This includes proper ventilation, insulation, and refrigeration systems.

Also to be noted - Official Controls: Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, amending Regulations (EC) No 999/2001, (EC) No 396/2005, (EC) No 1069/2009, (EC) No 1107/2009, (EU) No 1151/2012, (EU) No 652/2014, (EU) 2016/429 and (EU) 2016/2031 of the European Parliament and of the Council, Council Regulations (EC) No 1/2005 and (EC) No 1099/2009 and Council Directives 98/58/EC, 1999/74/EC, 2007/43/EC, 2008/119/EC and 2008/120/EC, and repealing Regulations (EC) No 854/2004 and (EC) No 882/2004 of the European Parliament and of the Council, Council Directives 89/608/EEC, 89/662/EEC, 90/425/EEC, 91/496/EEC, 96/23/EC, 96/93/EC and 97/78/EC and Council Decision 92/438/EEC (Official Controls Regulation) (OJ L-95 07/04/2017) (CELEX 32017R0625)

In conclusion, the European Union (EU) has established a comprehensive framework of specific requirements for the **transport, storage and sale of foodstuffs**. These regulations are characterized by their meticulous attention to detail and a strong emphasis on ensuring the safety, integrity, and quality of food products throughout the entire supply chain. Most of the EU requirements are not mentioned by the Chinese Standard.

2.11 GB/T 24307-2009 QUALITY GRADES OF PRODUCTS OF CATHAYENSIS SARG.

<table>
<tr><th>GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg</th><th>EU legislation</th><th>Implementing rules and comparative evaluation</th></tr>
<tr><td>Scope
This standard specifies the hickory (Carya cathayensis Sarg.)[2] product classification, technical requirements, test methods, inspection rules and packaging, transport, storage requirements.
This standard applies to hickory products.</td><td>There is no specific standard in the EU just for hickory (Carya cathayensis Sarg.) products / nuts.

In the European Union (EU), there are various regulations and standards that address the safety and quality of food products, including preserved fruits (so, there are no specific hygiene requirements for hickory nuts only).</td><td>It is important to emphasize that within the EU, there is no singular standard that directly aligns with the Chinese National Standard for hickory nuts.
Instead, the EU employs a comprehensive approach, utilizing a combination of regulations and standards to collectively address the safety, quality, and hygiene aspects related to dried fruits. This approach covers all requirements presented in the Chinese National Standard GB/T 24307-2009.</td></tr>
<tr><td>3 Pecan raw material product quality level
3.1 Basic requirements
Hickory nuts are fully ripe, clean shell surface, tight sutures, no moth, oil, odour and other fruits, no impurities, without harmful chemical bleach treatment.
3.2 Grade index

Hickory raw material product quality grade specifications indicators are shown in Table 1

Table 1 Hickory raw material product quality grade specification indicators
<table>
<tr><td>Grade index</td><td>Special grade</td><td>First grade</td><td>Second grade</td><td>Third grade</td></tr>
<tr><td>Appearance</td><td>The shell surface is clean, no black colour on the hand. Round shape.</td><td>The shell surface is clean, no black colour on the hand. Round shape.</td><td>The shell surface is clean, no black colour on the hand. Round shape.</td><td>No fruit shape required.</td></tr>
</table></td><td>Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007
OJ L 347, 20.12.2013, p. 671–854; also EU https://trade.ec.europa.eu/access-to-markets/en/content/classifying-edible-fruit-and-nuts
To be noted - COMMISSION IMPLEMENTING REGULATION (EU) No 543/2011 of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors[3]</td><td>There is no single quality standard for hickory nuts in the EU. However, the following are some of the factors that are typically considered when assessing the quality of hickory nuts (applicable to all kinds of nuts):

Appearance and condition: Nuts should be free from cracks, holes, or significant damage to the shell. They should also be free from mold, rot, or discoloration.

Flavor and aroma: Nuts should have a characteristic hickory nut flavor and aroma, without off-flavors or odors.

Freshness: Nuts should be fresh and free from rancidity or staleness.

Moisture content: Nuts should have an appropriatmoisture content to ensure quality and prevent spoilage.</td></tr>
</table>

[2] Hickory (Carya cathayensis Sarg.) is a species of deciduous tree native to China. It is commonly known as the Cathay hickory. Hickory trees belong to the genus Carya, which includes several species found in North America, Asia, and other regions. Carya cathayensis is specifically native to parts of eastern and southern China. These trees produce edible nuts known as Chinese hickory nuts, which are enclosed in a thick, hard shell. Chinese hickory nuts can be eaten raw, roasted, or used in various dishes, including baked goods, desserts, and savory dishes.

[3] It should be noted that before there was Commission Regulation (EC) No 1284/2002 of 15 July 2002 laying down the marketing standard for hazelnuts in shell, with similar requirements, OJ L 187, 16.7.2002, p. 14–20, however, no longer in force, repealed by Commission Regulation (EC) No 1221/2008 of 5 December 2008 amending Regulation (EC) No 1580/2007 laying down implementing rules

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg					EU legislation	Implementing rules and comparative evaluation
Colour	Natural yellowish-white shell, golden-yellow kernel, no adherents.	Shell natural yellowish white, kernel yellowish brown, without adherents.	Shell natural yellowish white or yellowish brown, kernel brown, with a few attachments.	Shell darker in colour, kernel skin dark brown, with a small amount of adherence.	**Article 4** **Exceptions and exemptions from the application of marketing standards** By way of derogation from Article 113a(3) of Regulation (EC) No 1234/2007, the following products shall not be required to conform to the general marketing standard: (f) shelled walnuts of CN code 0802 32, (g) pine nuts of CN code 0802 90 50, (h)pistachios of CN code 0802 50 00, (i)macadamia of CN code 0802 60 00, **(j) pecans of CN code ex 0802 90 20,** **(k) other nuts of CN code 0802 90 85,** (l) dried plantains of CN code 0803 00 90, (o) mixtures of other nuts of CN code 0813 50 39 7. Evidence shall be supplied to the competent authority of the Member State that the products covered by paragraphs 1(a) and 2 fulfil the conditions laid down, in particular with regard to their intended use. No comparable legal provisions in EU Regulations, but there is Commission Guide - Classifying edible fruit and nuts. This Guide helps to understand the classification of edible fruit and nuts in order to determine the applicable custom duty rates and non-tariff measures applicable to such products.	**Size and uniformity:** Nuts should be of a uniform size and shape. **Free from contaminants:** Nuts should be free from contaminants, such as pesticides or chemicals. As to the Quality Grade: Regulation 543/2011, which lays down detailed rules for the application of Council Regulation (EC) No 1234/2007 in the fruit and vegetables and processed fruit and vegetables sectors. Specifically, it addresses Article 4, which deals with exceptions and exemptions from the application of marketing standards for certain products. **Marketing Standards**: Marketing standards are regulations that define the quality and characteristics of agricultural products, such as fruits and vegetables, that can be marketed within the European Union. These standards ensure that products meet specific criteria related to size, shape, appearance, and quality to maintain consumer confidence and fair competition. CN Code: The CN (Combined Nomenclature) code is a system used to classify goods for customs and statistical purposes within the EU. It helps identify and categorize products for trade and regulatory purposes. **Derogation in relation to nuts**: Article 4 states that certain products, including shelled walnuts, pine nuts, pistachios, macadamia nuts, pecans, other nuts, dried plantains, and mixtures of other nuts, **are exempt from conforming to the general marketing standard outlined in Article 113a(3) of Regulation (EC) No 1234/2007.** In other words, these products do not need to meet the standard quality and appearance criteria typically required for fruits and vegetables.
Uniformity	Uniform in size and neat in appearance.	Uniform in size and neat in appearance.	Uniform in size and neat in appearance.	Uniform in size and neat in appearance.		
Damage rate	No damaged fruit, deformed fruit and mouldy fruit.	No more than 1% of damaged fruit, deformed fruit and mouldy fruit.	Damaged fruit, deformed fruit, mouldy fruit not more than 5%.	Damaged fruit, deformed fruit, mouldy fruit not more than 5%.		
Fullness	Fruit kernel is full. No empty seeds, deflated seed rate, half-seed rate ≤ 1%.	Fruit kernel full. No empty seeds, the rate of deflated seeds, half-seed rate ≤ 2%.	Fruit kernel is fuller. No empty seeds, rate of deflated seeds and half-seeds ≤3%.	Kernel fuller. No empty seeds, deflated seed rate, semi The rate of grain seed is less than 3%.		
Oil content	≥40%.					
Water content	≤6%					
Acid value (KOH) (in terms of fat)	≤4mg/g					
Peroxide value (fat)	≤0.08g/100g					

of Council Regulations (EC) No 2200/96, (EC) No 2201/96 and (EC) No 1182/2007 in the fruit and vegetable sector as regards marketing standards, OJ L 336, 13.12.2008, p. 1–80, which was repealed referred Regulation - REGULATION (EU) No 543/2011.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
3.3 Appearance size grading Pecans are graded according to diameter size, see Table 2. **Table 2 Hickory particle grading** Size / Nut diameter/cm Extra large / ≥2.15 Large / 1.95~2.15 Medium / 1.75~1.95 Small / ≤1.75 In each grade, the maximum content of particles smaller than this grade is 3% (number). **3.4 Hygienic index** Health indicators are implemented according to the requirements of **GB19300 and GB16326**, total arsenic, lead should be in line with the provisions of **GB2762**, sulfur dioxide should be in line with the provisions of **GB2760**.	**GB19300 and GB16326 (Health Indicators):** GB19300 and GB16326 are Chinese national standards that specify health indicators and requirements for food products. These standards cover various aspects of food safety, including microbiological criteria, sensory evaluation, and other quality parameters. To comply with EU regulations, food products imported into the EU, including nuts, must meet specific microbiological criteria and quality standards. Relevant EU **Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs**, which sets out microbiological criteria for various food categories. This regulation establishes the safety and quality criteria for specific pathogens and indicators in food. **GB2762 (Total Arsenic and Lead):** GB2762 is a Chinese national standard that specifies maximum allowable levels for contaminants, including total arsenic and lead, in various food products.	**Evidence Requirement:** For these exempted products to qualify for the derogation (exemption), evidence must be provided to the competent authority of the Member State (EU country) where the products are being marketed. This evidence should demonstrate that the products meet specific conditions, particularly regarding their intended use. The intent is to ensure that these products are not being marketed as fresh fruits or vegetables but for some other purpose.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
	To export food products to the EU, including nuts, it's essential to comply with **Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food** and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues. This Regulation includes specific maximum levels for various contaminants, including heavy metals like lead and arsenic. **GB2760** is a Chinese national standard that sets maximum allowable levels for sulfur dioxide (SO2) in various food products. It outlines the permitted use of SO2 as a food additive. For exports to the EU, including nuts, it's important to comply with EU regulations on food additives and preservatives. The EU has established its own regulations on the use of food additives, including SO2, in food products. These regulations are set out in **Regulation (EC) No 1333/2008 on food additives**.	

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation

4 Hickory shell processing product quality requirements

4.1 Requirements for sensory indicators

Sensory indicators in line with the requirements of Table 3.

Table 3 Sensory index requirements for hickory nuts in shell processed products

Item	Salt and pepper pecans	Creamy pecans	Multi-flavoured pecans
Colour	Dark brown shell, even colour, slightly shiny, slightly white salted surface.	Dark brown shell, even colour, oily.	Dark brown shell, even colour, oily.
Aroma	Aroma characteristic of hickory.	Aroma characteristic of hickory.	Aroma characteristic of hickory.
Taste	The kernel is crunchy, with no obvious astringency and no off-flavour.	The kernel is crunchy, moderately salty and sweet, with a creamy flavour. No off-flavour.	Kernel is crunchy, moderately salty and sweet, with no off-flavour.
Morphology	The grains are intact, most of them have foliate seams, basically uniform in size, without obvious scorched spots.		
Fullness	No empty seeds, the rate of deflated seeds≤3%, the rate of half-seed≤1%.		
Impurity	No obvious impurities.		

The requirements for **sensory and physico-chemical indicators** to conform to the provisions of Tables 3 & 4 correspond to the need for Hickory nuts to meet established maximum levels for contaminants, mycotoxins, heavy metals, and other physical and chemical attributes. These standards are defined in various EU Regulations.

General Food Safety Regulations: Nuts must comply with general food safety regulations, including Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs. This regulation covers hygiene, production practices, and facilities covering all food products.

Good Manufacturing Practices (GMP) and HACCP: The principles of GMP and hazard analysis and critical control points (HACCP) are applied throughout the food industry, including nuts production, to ensure quality and safety. Regulation (EC) No 852/2004 on the hygiene of foodstuffs requires all food businesses to implement a HACCP system.

Official Controls: Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, amending Regulations (EC) No 999/2001, (EC) No 396/2005, (EC) No 1069/2009, (EC) No 1107/2009, (EU) No 1151/2012, (EU) No 652/2014, (EU) 2016/429 and (EU) 2016/2031 of the European Parliament and of the Council (OJ L-95 07/04/2017) (CELEX 32017R0625)

Contaminant Levels: The EU sets maximum levels for contaminants, including mycotoxins and heavy metals (this is applicable for Nuts too).

- Council Regulation (EEC) No 315/93 of 8 February 1993 laying down Community procedures for contaminants in food (OJ L-37 13/02/1993) (CELEX 31993R0315)

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4.2 External dimensional requirements

Appearance size requirements in line with the requirements of Table 2.

4.3 Physical and chemical index requirements

Physicochemical indexes meet the requirements of Table 4.

Table 4 Hickory processing products physical and chemical index requirements

Item	Indicator requirements
Net content tolerance (500g within the small package)	± 3%, the average net content shall not be less than the stated amount
Moisture	≤6%
Acid value (KOH) (fat content)	≤4mg/g
Peroxide value (in terms of fat content)	≤0.50g/100g

4.4 Hygiene indicators

Hygienic index requirements are in line with the requirements of 3.4.

4.5 Food additives

Food additives varieties and use should be consistent with the provisions of GB2760.

- Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006 (OJ L-119 05/05/2023) (CELEX 32023R0915)
- Commission Regulation (EC) No 1881/2006 of 19 December 2006 setting maximum levels for certain contaminants in foodstuffs (OJ L-364 20/12/2006) (CELEX 32006R1881)
- Commission Implementing Regulation (EU) 2022/932 of 9 June 2022 on uniform practical arrangements for the performance of official controls as regards contaminants in food, on specific additional content of multi-annual national control plans and specific additional arrangements for their preparation (OJ L-162 17/06/2022) (CELEX 32022R0932)
- Council Regulation (Euratom) 2016/52 of 15 January 2016 laying down maximum permitted levels of radioactive contamination of food and feed following a nuclear accident or any other case of radiological emergency, and repealing Regulation (Euratom) No 3954/87 and Commission Regulations (Euratom) No 944/89 and (Euratom) No 770/90 (OJ L-13 20/01/2016) (CELEX 32016R0052)

Food Additives: The use of food additives in preserved fruits is governed by Regulation (EC) No 1331/2008 on food additives. This regulation establishes permitted additives and their maximum usage levels.

<table>
<tr><th>GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg</th><th>EU legislation</th><th>Implementing rules and comparative evaluation</th></tr>
<tr><td>

5 hickory nut processing product quality level classification

Sensory indicators required to meet the requirements of Table 5.

Table 5 hickory nuts processing product sensory index requirements

<table>
<tr><th>Main indicators</th><th>Special grade</th><th>First grade</th><th>Second grade</th><th>Third grade</th></tr>
<tr><td>Appearance</td><td>Pale yellow, slightly shiny, no broken kernel powder.</td><td>Pale yellow, bright, with few broken kernel (broken kernel rate not more than 3%).</td><td>Pale yellow, bright, with broken kernel (broken kernel rate 3%-8%).</td><td>Pale yellow, glossy, with broken kernel (broken kernel rate more than 8%).</td></tr>
<tr><td>Taste</td><td>Moderately sweet and salty in the mouth, with crispy texture.</td><td>Moderately sweet and salty in the mouth, with a crisp texture.</td><td>Sweet or salty in the mouth, crispy in the mouth.</td><td>Sweet or salty in the mouth, crispy in the mouth.</td></tr>
<tr><td>Amount of added sugar/(g/100g)</td><td>7</td><td>9</td><td>11</td><td>13</td></tr>
</table>

Other physical and chemical indicators and health indicators with 4.3, 4.4, 4.5.

</td><td>No comparable EU Regulation contains similar quality product requirements for Hickory nuts.</td><td></td></tr>
<tr><td>

6 Hickory product quality indicators of the test method

6.1 Appearance

Take the appropriate amount of pecans spread on a clean porcelain plate, in the bright light with the naked eye to observe its colour, fruit surface, fruit shape and defects, and smashed open the kernel to observe the kernel colour and lustre, record the observation results.

</td><td>No comparable EU Regulation contains similar quality product requirements, however, for contaminants: **Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food** and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues.</td><td></td></tr>
</table>

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
6.2 Kernel yield Randomly take 100 hickory fruit kernel weight and hickory nut weight ratio, converted into a percentage, accuracy of 0.01, trimmed to a decimal. **6.3 Water content** Tested according to the method specified in GB/T 5009.3. **6.4 Crude fat content** GB / T 5009.5 according to the method specified in the test. **6.5 Acid price, peroxide value** Tested according to the methods specified in GB/T 5009.37. **6.6 Heavy metal content** According to GB / T 5009.11, GB / T 5009.12 in the method specified in the determination of lead, total arsenic. **6.7 SO2 content** According to the method specified in GB/T 5009.34. **6.8 Aflatoxin B1** According to GB / T 5009.23-2006 in the aflatoxin B1 specified methods.	**In relation to Aflatoxin in nuts:** Commission Regulation (EC) No 401/2006 of 23 February 2006 laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs Commission Implementing Regulation (EU) 2019/1793 of 22 October 2019 on the temporary increase of official controls and emergency measures governing the entry into the Union of certain goods from certain third countries implementing Regulations (EU) 2017/625 and (EC) No 178/2002 of the European Parliament and of the Council and repealing Commission Regulations (EC) No 669/2009, (EU) No 884/2014, (EU) 2015/175, (EU) 2017/186 and (EU) 2018/1660 (Text with EEA relevance)Text with EEA relevance In order to assist the competent authorities on the official control of aflatoxin contamination in food products which are subject to Commission Implementing Regulation (EU) 2019/1793, a guidance document "Guidance document for competent authorities for the control of compliance with EU legislation on aflatoxins" has been elaborated. In addition, the European Food Safety Authority (EFSA) has adopted on 3 February 2004 an opinion related to **aflatoxin B1 - https://www.efsa.europa.eu/en/efsajournal/pub/39**	Comparing Chinese Method for Aflatoxin B1 Testing (GB/T 5009.23-2006): The EU has established maximum allowable levels (maximum levels) for aflatoxin B1 in various food products. These maximum levels are outlined in **Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food** and repealing Regulation (EC) No 1881/2006 and other regulations specific to additives and pesticide residues. Food products, including nuts, that are imported into the EU must comply with these maximum levels. While the EU regulations do not specify a particular analytical method for aflatoxin B1 testing, they require that testing methods used for compliance should be validated and capable of providing accurate results. Laboratories conducting aflatoxin B1 testing for EU-bound food products

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
6.9 Microbiological indicators Stereotyped packaging samples with aseptic operation to open the sample, with shell samples first 75% alcohol disinfection of the surface, and then use sterile scissors to cut off the shell, remove the pulp, weighing 25g of samples; without shell samples aseptic direct sampling 25% of the test samples, containing 225mL sterile saline, made of 1:10 diluted solution. Determination of total colony count according to GB / T 4789.2 implementation, coliform determination according to GB / T 4789.3 implementation, Salmonella test according to GB / T 4789.4 implementation, Staphylococcus aureus test according to GB / T 4789.10 implementation, moulds and yeast count according to GB / T 4789.15 implementation.	In relation to Microbiological Criteria - Commission Regulation (EC) No **2073/2005 on microbiological criteria for foodstuffs**. **EU Approach for Microbiological Testing:** The EU has established microbiological criteria for various food categories, which are outlined in Regulation (EC) No 2073/2005. Microbiological criteria specify acceptable levels of microorganisms, including total colony count, coliforms, Salmonella, Staphylococcus aureus, and other pathogens or indicators.	should adhere to internationally recognized standards and ensure the reliability and accuracy of their testing. In summary, the Chinese method outlined in **GB/T 5009.23-2006** provides a specific analytical procedure for detecting aflatoxin B1. The choice of analytical method used for aflatoxin B1 testing should follow best practices and meet requirements for accuracy and reliability. Sampling and testing methods are outlined in EU Regulation appear to be different from the Chinese requirements. While the specific testing methods and procedures in the provision differ from those in EU Regulation, the underlying goal of ensuring food safety through microbiological testing might be consistent.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
7 Inspection rules **7.1 Factory rules** Products shall be factory inspection department batch by batch inspection, and issue a certificate of conformity. Factory inspection items include: sensory requirements, physical and chemical indicators, health indicators. **7.2 Group batch** The same origin, the same species, the same grade, the same batch of hickory nuts harvested as a test batch. **7.3 Sampling** A batch of products when the packaging unit does not exceed 50 pieces, the sampling of packaging units not less than 5. When there are more than 50 pieces, one additional unit shall be drawn for each additional 20 pieces, which shall be randomly selected. Walnut samples taken from the packaging unit, should be taken from different parts, each packaging unit to take more than 500g, as the initial sample. The initial sample of walnuts taken shall be mixed thoroughly, from which 2.5kg shall be randomly selected as the average sample. Spread the average sample in a square layer, divided into four equal parts according to the diagonal method, and randomly take 250g from each part, totalling 1,000g of pecans as test samples.	**Official Controls:** Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products. **Sampling & Testing** EU Regulation 2073/2005 on microbiological criteria for foodstuffs	Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health, and plant protection products includes provisions related to testing and inspection. Here are some of the key issues that pertain to these activities: Specific Provisions on Sampling and Analysis: Article 34 - Methods used for sampling, analyses, tests and diagnoses • Methods used for sampling and for laboratory analyses, tests and diagnoses during official controls and other official activities shall comply with Union rules establishing those methods or the performance criteria for those methods. • Samples shall be taken, handled and labelled in such a way as to ensure their legal, scientific and technical validity. EU Regulation 2073/2005 on microbiological criteria for foodstuffs also has provisions in relation to sampling: **Sampling Plans & Sampling for Control Purposes** Regulation (EC) No 2073/2005 outlines detailed procedures for sampling food products to assess their microbiological quality. It includes guidance on the number of samples to be taken, sampling methods, and sampling frequencies. Competent authorities are empowered to take samples for control purposes, and they may conduct investigations and inspections to ensure compliance with the microbiological criteria. **Methods of Analysis** The regulation specifies the methods to be used for microbiological testing. These methods are typically referenced from recognized international standards, ensuring consistency and reliability in testing procedures. **Responsibilities of Food Business Operators** Food business operators are responsible for ensuring that their products comply with the microbiological criteria. They must regularly monitor and test their products, and if any criteria are exceeded, they must take corrective actions. **Product Testing and Documentation** Food business operators are required to keep records of microbiological testing results, sampling plans, and corrective actions taken. This documentation is essential for traceability and compliance purposes.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
		Specific Requirements for Certain Products Given the fact that the EU Regulation applies to much wider range of products, it includes specific microbiological criteria for certain foodstuffs, taking into account the nature of the product and the associated health risks. For example, there are separate criteria for raw milk and dairy products, minced meat, and sprouted seeds. In conclusion a few points to be noted: ➢ **Type Testing Requirement:** ○ Chinese Standard: "The type test items include all items specified in this standard." ○ EU Regulation: specific regulations define type testing requirements for certain product categories. However, the general principle is that products should comply with applicable regulations, including safety and quality standards. ➢ **Frequency of Type Testing:** ○ Chinese Standard: "Every six months should be a type test of the product." ○ EU regulations typically do not specify a fixed frequency for type testing. Instead, they may require manufacturers to conduct regular testing or establish a testing schedule based on risk assessment and product characteristics. ➢ **Circumstances for Additional Type Testing:** ○ Chinese Standard: Lists several circumstances when additional type testing is required, such as changes in raw materials, process changes, resuming production after suspension, significant differences in factory inspection results, and requirements from state quality supervision agencies. ○ EU regulations may require manufacturers to re-evaluate and potentially retest their products in cases of significant changes in product composition, manufacturing processes, or other factors that may affect product safety or compliance. State or competent authorities may also initiate testing or inspections as needed for regulatory compliance.
8 Judgement rules Product test items all in line with this standard, judged to be qualified products. If one or more items do not conform to this standard, **the sample shall be doubled and retested for the unqualified items;** if the retest still does not conform to this standard, the product shall be judged as unqualified. Microbiological items failing to carry out re-inspection shall not be directly ruled that the batch of products are unqualified. If there is any dispute in the inspection, the product can be re-sampled for inspection, and the results of the re-inspection shall prevail.	No comparable provisions in the EU legislation.	As to the Judgment Rules Based on Testing Results: In the EU, compliance with all relevant Food Safety Regulations is required. ➢ **Microbiological Indicator Non-Compliance:** EU regulations also set microbiological criteria for certain food products. If the microbiological indicators in a batch of products do not meet the specified criteria, the batch may be considered non-compliant and may be subject to regulatory actions, which can include recalls or withdrawal from the market. ➢ **Retesting for Non-Microbiological Non-Compliance:** EU Regulations do not typically include provisions for retesting of non-microbiological indicators. If non-microbiological testing results do not meet the relevant standards, the batch is generally considered non-compliant without an option for retesting.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
9 Packaging, transport, storage **9.1 Packaging** Small packages to implement the provisions of GB7718. Large packaging with special cartons or wooden boxes, the packaging should be strong and durable, clean and sanitary, dry, no odour. Usually, the net weight of each box of pecans 10kg. box should avoid moisture, the bottom and walls of the box should be lined with sulfuric acid paper and other moisture-proof materials. Each bag can only be loaded with the same species, the same grade of pecans, not to be confused. After packing, it should be sealed and bundled tightly, and labels should be put on the specified position of the box, indicating the name, specification, grade, net weight, place of origin, date of packing, shelf life, and name or code of the packaging personnel. **9.2 Transport** Transport products should avoid sun, rain, pay attention to moisture. The means of transport should be clean and hygienic, no odour, should not be mixed with toxic, harmful, odorous or affect product quality of the goods transport. **9.3 Storage** The product should be stored in a dry, well-ventilated place, and low-temperature storage is desirable if possible. Shall not be toxic, harmful, odorous, volatile, easy to corrode items stored in the same place, pecans in storage should be strengthened in the warehouse to prevent mildew, insect moths, anti-oil, rodent and other measures.	**Packaging:** Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP. Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food OJ L 12, 15.1.2011, p. 1–8. Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs sets out general hygiene requirements for food businesses throughout the food supply chain, including transport & storage. It includes provisions related to temperature control, cleanliness, and pest control in storage facilities.	In the EU, packaging materials and containers used for food products, including nuts, are subject to specific requirements to ensure the safety and suitability of packaging. The EU has established regulations and guidelines that cover various aspects of food packaging. Here are some of the key EU requirements for food packaging: **Materials and Articles Intended to Come into Contact with Food:** Regulation (EC) No 1935/2004 lays down the general principles and requirements for materials and articles intended to come into contact with food. This regulation ensures that food contact materials do not transfer harmful substances to the food and do not alter the organoleptic characteristics of the food. **Specific Regulations for Plastic Materials**: Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food, OJ L 12, 15.1.2011, p. 1–89 - sets specific rules for plastic materials and articles intended to come into contact with food. It establishes guidelines for the use of plastic materials in food packaging and includes provisions for active and intelligent packaging. **Traceability:** Packaging materials and articles must be traceable, and the identity of the supplier must be known to allow for recalls if necessary. This requirement is essential for ensuring the safety of food products. **Declaration of Compliance:** Manufacturers and suppliers of food packaging materials must provide a declaration of compliance with EU regulations. This declaration confirms that the packaging materials meet the necessary safety requirements. **Migration Limits:** Specific migration limits are established for certain substances used in food packaging, such as heavy metals, phthalates, and other potentially harmful substances. These limits ensure that packaging materials do not release harmful chemicals into food. **Labelling:** Packaging materials must be labelled with essential information, including the materials used, the name and address of the manufacturer, and any specific instructions for use. **Recycling and Environmental Requirements:** The EU promotes environmentally friendly packaging and encourages the use of recyclable materials. Regulations and directives related to packaging waste management set targets for recycling and reducing the environmental impact of packaging. **Novel Food Contact Materials:** Novel food contact materials, which have not been previously used for food packaging in the EU, require specific authorization and safety assessment before they can be used.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
		Good Manufacturing Practices (GMP): Manufacturers of food packaging materials and articles are expected to follow good manufacturing practices to ensure the safety and hygiene of the production process. Here are some key storage provisions for food in the EU (Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs): ➢ Temperature Control: ➢ Hygiene and Cleanliness: o Storage facilities must meet strict hygiene standards to prevent contamination of food products. o Regular cleaning and sanitation of storage areas, equipment, and containers are essential. o Pest control measures should be in place to prevent infestations. ➢ Packaging & Separation of Products: o Food products should be stored in a way that prevents cross-contamination. For example, raw and cooked foods should be stored separately. o Allergenic ingredients must be stored separately to avoid accidental cross-contact. ➢ Traceability & Storage Records o Effective traceability systems must be in place to track the movement of food products within the supply chain, making it possible to identify the source of any quality or safety issues. o Accurate records of storage conditions, including temperature logs, should be maintained. o These records help demonstrate compliance with storage requirements and can be crucial in case of product recalls or quality issues. ➢ Shelf-Life Management o Food businesses must monitor the shelf life of products in storage to ensure that products are not sold beyond their expiration dates. o First-in, first-out (FIFO) or similar stock rotation systems should be implemented to use older products before newer ones. ➢ Emergency Plans for Storage Facilities o Food businesses should have contingency plans in place to respond to emergencies, such as power outages or equipment failures, to prevent food spoilage.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
		For transport in addition to outlined above: **Vehicle Design and Maintenance:** Vehicles used for food transport must be designed and maintained to ensure the safe and sanitary transport of food products. This includes proper ventilation, insulation, and refrigeration systems. In conclusion, the European Union (EU) has established a comprehensive framework of specific requirements for the **transport and storage of foodstuffs, including nuts**. These regulations are characterized by their meticulous attention to detail and a strong emphasis on ensuring the safety, integrity, and quality of food products throughout the entire supply chain. Most of the EU requirements are not mentioned by the Chinese Standard.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
Absence in this Chinses Standards of the reference to MRLs for pesticides. Yet, in the EU there are tests and analytical methods used to detect and measure pesticide residues in nuts among other agricultural products.	Annexes to Regulation (EC) 396/2005 (CELEX 32005R0396) set out the list of products subject to control and MRLs applicable to them: • The list of products to which the MRLs apply has been established in Annex I, which includes animal products, fruits, vegetables, cereals, spices and certain edible plants. • The list of EU definitive MRLs is laid down in Annex II. • The so-called EU temporary MRLs (pesticides for which, before 1 September 2008, MRLs were only set at national level), are listed in Annex III. • The list of pesticides for which no MRLs are needed because of their low risk is included in Annex IV. • Annex V, which contains the list of pesticides for which a default limit other than 0,01 mg/kg applies and Annex VI, which will contain the list of conversion factors of MRLs for processed commodities, which has not been published yet. Annex VII contains a list of pesticides used as fumigants for which the Member States are allowed to apply special derogations before the products are placed on the market. Specific information on the substances and the MRLs included in the lists of Annexes II, III and IV is available at the EU Pesticides Database.	It should be noted that imports of plant products must comply with such MRLs set by the European Commission to protect consumers from exposure to unacceptable levels of pesticide residues. Nuts are no exception.
Absence in this Chinses Standards of the reference to labelling.	**Labelling:** The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This Regulation ensures accurate information about ingredients, allergens, nutritional values, and origin.	In relation to labelling of nuts, the following should be emphasized in the EU: **Allergen** Information: Any allergenic ingredients, such as peanuts, tree nuts, or other allergens, must be highlighted in the ingredients list using clear and conspicuous language. **Nuts, particularly tree nuts** (e.g., almonds, cashews, walnuts, hickory) and peanuts (which are legumes but often grouped with tree nuts), **are common allergens.** When individuals with nut allergies consume even trace amounts of these allergens, they can experience allergic reactions that range from mild to severe, including anaphylaxis, a life-threatening condition.

GB/T 24307—2009 Quality grades of products for Carya cathayensis Sarg	EU legislation	Implementing rules and comparative evaluation
		Net Quantity: The net quantity of the product should be clearly indicated on the label. . **Date Marking:** The label should display the "best before" date for packaged nuts. For certain types of nuts that are highly perishable, the "use by" date may be required. These dates provide guidance on product quality and safety. **Storage Conditions:** Instructions on how to store the nuts to maintain their quality and safety should be provided. This may include temperature requirements, protection from sunlight, or other specific storage conditions. **Nutritional Information:** Mandatory nutrition labeling is required for most pre-packaged food products, including nuts. The label should provide information on energy value and the amounts of specific nutrients per 100g or 100ml of the product. This includes information on fat, saturated fat, carbohydrates, sugars, protein, salt, and fiber. **Country of Origin:** For certain types of nuts, such as pistachios and almonds, regulations require the indication of the country of origin on the label. **Batch or Lot Identification:** To facilitate traceability, a batch or lot identification mark should be provided on the label. This helps track the product back to its source in case of quality or safety concerns.

2.12 GB/T 20398-2021 GRADE OF WALNUT

Chinese National Standard GBT20398-2021 Grade of Walnut	EU legislation	Implementing rules and comparative evaluation
Scope This document specifies the quality requirements, inspection methods, inspection rules, labelling and marking as well as packaging, storage and transport requirements for walnut nuts and walnut kernels. This document applies to the sale and inspection of commodities of walnut nuts and walnut kernels which are not processed by ripening process.	It appears that there is no specific standard in the EU just for walnuts at present (however, note that such Marketing Standard existed before - Commission Regulation (EC) No 175/2001 of 26 January 2001 laying down the marketing standard for walnuts in shell, OJ L 26, 27.1.2001, p. 24–30 – no longer in force.	It is important to emphasize that within the EU, there is no singular standard that directly aligns with the Chinese National Standard for walnuts. Instead, the EU employs a comprehensive approach, utilizing a combination of regulations and standards to collectively address the safety, quality, and hygiene aspects related to all products.
3 Terms and definitions The following terms and definitions apply to this document. 3.1 **Walnut** Dried nuts obtained from the mature fruits of two species of walnut (Juglans regia L.) and pickled walnut (Juglans sigillata Dode), after degreening, washing and drying. 3.2 **Walnut kernel** The seed kernel of walnut nuts obtained by shelling. 3.3 U**niformity** The degree of uniformity in fruit shape and size of walnut nut. 3.4 **Kernel percentage** Walnut kernel percentage of the mass of walnut nut. 3.5 **Heterochrosis kernel** Normal smell, taste, only the inner seed coat colour changes in the walnut kernel. 3.6 S**hell-cracked nut** Walnut nuts with broken or cracked shell surfaces and exposed seed kernels.	To be noted - COMMISSION IMPLEMENTING REGULATION (EU) No 543/2011 of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors[4] **Article 4** **Exceptions and exemptions from the application of marketing standards** By way of derogation from Article 113a(3) of Regulation (EC) No 1234/2007, the following products shall not be required to conform to the general marketing standard: (f) shelled walnuts of CN code 0802 32,	

[4] It should be noted that before there was Commission Regulation (EC) No 1284/2002 of 15 July 2002 laying down the marketing standard for hazelnuts in shell, with similar requirements, OJ L 187, 16.7.2002, p. 14–20, however, no longer in force, repealed by Commission Regulation (EC) No 1221/2008 of 5 December 2008 amending Regulation (EC) No 1580/2007 laying down implementing rules of Council Regulations (EC) No 2200/96, (EC) No 2201/96 and (EC) No 1182/2007 in the fruit and vegetable sector as regards marketing standards, OJ L 336, 13.12.2008, p. 1–80, which was repealed referred Regulation - REGULATION (EU) No 543/2011.

Chinese National Standard GBT20398-2021 Grade of Walnut	EU legislation	Implementing rules and comparative evaluation
3.7 D**efective nut (kernel)** The walnut nut (kernel) is damaged or has obvious defects. 3.7.1 **Shrivelled nut (kernel)** Seed kernel shrivelled and crumpled walnut nut or walnut kernel. 3.7.2 I**nsect-bored nut (kernel)** Walnut nuts or kernels with diseased spots, or with damage to the shell or seed kernel due to insect activity. 3.7.3 M**ouldy nut(kernel)** Walnut nut or walnut kernel with mouldy and deteriorated shell or kernel surface. 3.7.4 **Oil-ozing nut(kernel)** Seed kernel oil oxidation rancidity, shell or seed kernel surface oily and volatile odour walnut nut or walnut kernel 3.8 **Impurity** Walnut nuts or walnut kernels in the presence of hair, soil, gravel and other foreign impurities, as well as walnut shell, diaphragm and other inherent impurities.		

Chinese National Standard GBT20398-2021 Grade of Walnut	EU legislation	Implementing rules and comparative evaluation

4 Quality requirements

4.1 Common walnut nuts

The quality requirements for common walnut nuts are mainly for retail growers, as shown in Table 1.

Table 1 Quality requirements of common walnut nuts

Quality grade	Item			
	Uniformity/%	Impurity/%	Defective fruit rate/%	Kernel moisture content/%
General 1	≥80.0	≤1.0	≤7.0	≤6.0
General 2	≥75.0	≤2.0	≤8.0	
General 3	≥70.0	≤3.0	≤9.0	
Out-of-grade	--	≤8.0	≤10.0	
Note: The items in the table are applicable to, but not limited to, some of the main cultivars of walnut listed in Appendix A.				

4.2 Quality walnut nuts

Quality requirements for high-quality walnut nuts are mainly orientated to large-scale growers, see Table 2.

Table 2 Quality requirements for high quality walnut nuts

Item		Excellent 1	Excellent 2	Excellent 3
Fruit shell		Colour of natural properties, tight stitching		
Uniformity / %		≥95.0	≥90.0	≥85.0
Broken fruit / %		≤2.0	≤4.0	≤6.0
Kernel yield / %		≥50.0	≥45.0	≥40.0
Kernel moisture content / %		≤5.0		
Different coloured kernel/%		≤5.0	≤10.0	≤15.0
Impurity/%		≤1.0		
Defective fruit	Dried and shrivelled fruit rate/%	≤2.0	≤3.0	≤4.0
	Disease and insect fruit rate/%	≤0.5	≤1.0	≤1.0
	Rate of mouldy fruit/%	≤0.5	≤1.0	≤1.0
	Fruit oil rate/%	≤0.5	≤0.6	≤0.8
Note: The items in the table are applicable to, but not limited to, some of the main varieties of walnut listed in Appendix A.				

NOT IN FORCE - Commission Regulation (EC) No 175/2001 of 26 January 2001 laying down the marketing standard for walnuts in shell, OJ L 26, 27.1.2001, p. 24–30, however, this Regulation contained special grades of walnuts.

Chinese National Standard GBT20398-2021 Grade of Walnut	EU legislation	Implementing rules and comparative evaluation

4.3 Walnut kernel

Walnut kernel quality requirements are shown in Table 3.

Table 3 Quality requirements of walnut kernel

Item		Special grade	First grade	Second grade	Outside grade
Colour		Yellowish white or variety-specific colour	Yellowish white or variety-specific colour	Light amber or variety-specific colour	--
Odour		Normal, no rancidity and other odours			
Integrity / %		Half kernel and above≥80.0 Eighth kernel and below ≤ 2.0	Quarter kernel and above≥80.0 Eighth kernel and below≤10.0	--	--
Impurity／%		≤1.0	≤2.0	≤3.0	≤3.0
Defective kernel	Defective kernel rate/%	≤1.5	≤3.0	≤5.0	≤5.0
	Disease and insect kernel rate/%	≤1.0	≤2.0	≤3.0	≤3.0
	Rate of mouldy kernel/%	≤0.5	≤0.5	≤1.0	≤1.0
	Kernel oil rate/%	≤0.5	≤0.5	≤1.0	≤1.0
Kernel water content/%		≤5.0			
Note: The items in the table are applicable to, but not limited to, some of the main varieties of walnuts listed in Appendix A.					

Chinese National Standard GBT20398-2021 Grade of Walnut	EU legislation	Implementing rules and comparative evaluation
5 Inspection methods 5.1 Cuttings, samples: in accordance with GB / T 5491 implementation. 5.2 Uniformity: in accordance with Appendix B. 5.3 Kernel yield: in accordance with Appendix B. 5.4 Different coloured kernels: in accordance with Appendix B. 5.5 Broken fruit: in accordance with Appendix B. 5.6 Defective fruit rate: in accordance with Appendix B. 5.7 Defective kernel rate: in accordance with Appendix B. 5.8 Kernel moisture content: test methods in accordance with GB 5009.3 implementation. 5.9 Impurities: in accordance with the provisions of GB / T 5494	**Official Controls:** Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products.	It can be seen that EU approach in relation to inspection methods is comprehensive and risk based. The provisions within Regulation (EU) 2017/625 (see below) are designed to enhance the efficiency and effectiveness of official controls and inspections related to food safety, animal health, animal welfare, plant health, and plant protection products within the European Union. The Regulation aims to ensure a high level of protection for consumers and the environment while facilitating the functioning of the internal market for these products. It should be noted that Chinese Standard does not refer to risk based approach in its text.

Regulation (EU) 2017/625 of the European Parliament and of the Council, often referred to as the "Official Controls Regulation," establishes a comprehensive framework for official controls and activities performed to ensure the application of various laws related to food, feed, animal health, animal welfare, plant health, and plant protection products within the EU. The Regulation includes provisions related to inspections. Some of the major provisions regarding inspections under this Regulation include:

- **Risk-Based Approach:** The regulation emphasizes the importance of a risk-based approach to inspections. Competent authorities are required to prioritize their inspection activities based on the assessed risks associated with different operators and products. This ensures that resources are allocated effectively to areas with the highest potential risk to public health and safety.
- **Frequency of Inspections:** The regulation specifies that competent authorities should conduct inspections at regular intervals, taking into account the risk factors associated with the operators and products. High-risk operators and products may be subject to more frequent inspections.
- **Unannounced Inspections:** Competent authorities are empowered to conduct unannounced inspections when necessary, especially in cases where advance notice might undermine the effectiveness of the inspection. This is particularly important for ensuring the integrity of control measures.
- **Inspection Procedures:** The regulation outlines the procedures for conducting inspections, including how inspections should be planned, executed, and documented. It also covers the use of sampling and testing as part of the inspection process.
- **Powers of Inspectors**: Inspectors have the authority to access premises, documents, and records relevant to their inspection. They can take samples, request information, and interview personnel as needed to carry out their duties.
- **Cooperation and Coordination:** The regulation promotes cooperation and coordination among EU Member States to ensure consistency and effectiveness in carrying out inspections. This includes sharing information and coordinating cross-border inspections when necessary.
- **Enforcement Measures:** The regulation sets out measures that competent authorities can take in response to non-compliance or violations identified during inspections. These measures may include corrective actions, suspension of operations, and withdrawal of approvals.
- **Import Controls**: The regulation includes provisions for inspections of imported food and feed to ensure that they comply with EU standards. Competent authorities are responsible for verifying the safety and compliance of imported products.
- **Documentation and Reporting:** Detailed records of inspections, findings, and enforcement actions must be maintained by competent authorities. They are also required to report relevant information to the European Commission and other Member States.

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6 Test rules 6.1 General rules of inspection in accordance with GB / T 5490 implementation. 6.2 The same variety, the same origin, the same harvest year, the same transport unit, the same storage unit of walnut nuts or walnut kernels as an inspection lot. 6.3 Determination rules are as follows: a) test results in line with the relevant provisions of Chapter 4, judge the batch of products for the qualified products; b) test results do not meet the relevant provisions of Chapter 4, can be doubled in the original batch of products in the non-conformity of the sample re-inspection, re-inspection of all the results in line with the relevant provisions of Chapter 4, the award of the batch of products for the products, re-inspection of the results of the indicators are still not in line with the relevant provisions of Chapter 4, the award of the batch of products for the products do not qualify.	**Official Controls:** Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products. **Sampling & Testing** EU Regulation 2073/2005 on microbiological criteria for foodstuffs	
7 labelling and marking 7.1 pre-packaged walnut nuts or walnut kernels, the content of the label should be consistent with the provisions of the corresponding standards 7.2 Non-prepackaged walnut nuts or walnut kernels should be marked on the outside surface of the package or accompanying instructions on the name, species, grade, net weight, origin, harvest date, name of the production unit and mailing address.	**Labelling:** The labelling and packaging requirements for dried fruits are covered by Regulation (EU) No 1169/2011 on the provision of food information to consumers. This Regulation ensures accurate information about ingredients, allergens, nutritional values, and origin.	

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In relation to labelling of nuts, the following should be emphasized in the EU: **Allergen Information**: Any allergenic ingredients, such as peanuts, tree nuts, or other allergens, must be highlighted in the ingredients list using clear and conspicuous language. **Nuts, particularly tree nuts** (e.g., almonds, cashews, walnuts, hickory) and peanuts (which are legumes but often grouped with tree nuts), **are common allergens.** When individuals with nut allergies consume even trace amounts of these allergens, they can experience allergic reactions that range from mild to severe, including anaphylaxis, a life-threatening condition. **Net Quantity:** The net quantity of the product should be clearly indicated on the label. . **Date Marking:** The label should display the "best before" date for packaged nuts. For certain types of nuts that are highly perishable, the "use by" date may be required. These dates provide guidance on product quality and safety. **Storage Conditions:** Instructions on how to store the nuts to maintain their quality and safety should be provided. This may include temperature requirements, protection from sunlight, or other specific storage conditions. **Nutritional Information:** Mandatory nutrition labeling is required for most pre-packaged food products, including nuts. The label should provide information on energy value and the amounts of specific nutrients per 100g or 100ml of the product. This includes information on fat, saturated fat, carbohydrates, sugars, protein, salt, and fiber. **Country of Origin:** For certain types of nuts, such as pistachios and almonds, regulations require the indication of the country of origin on the label. **Batch or Lot Identification:** To facilitate traceability, a batch or lot identification mark should be provided on the label. This helps track the product back to its source in case of quality or safety concerns.		
8 Packaging, storage and transport **8.1 Packaging** Packaging should be dense and firm, can not produce leakage, should not cause contamination of walnut nuts (kernels). Packaging should be consistent with the provisions of GB / T 6543, GB / T 8946. **8.2 Storage** Walnut nuts should be stored in a dry, cool, ventilated warehouse, while strengthening the mould, pollution, insect moths, oil, rodent and other measures, is strictly prohibited and toxic, harmful, corrosive, odorous items mixed storage. Walnut kernel in storage, in addition to meet the above requirements, the warehouse temperature should be controlled at -1 ℃ ~ 5 ℃, the relative humidity is maintained at 50% ~ 60%. **8.3 Transport** The means of transport should be clean, hygienic and pollution-free, and rain, pollution and violent collision should be prevented during transport. It can not be mixed with toxic, harmful and odorous items.	**Packaging:** Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food: this Regulation lays down requirements for the safety of food contact materials. These requirements include the implementation of GMP. Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food OJ L 12, 15.1.2011, p. 1–8. Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs sets out general hygiene requirements for food businesses throughout the food supply chain, **including transport & storage**. It includes provisions related to temperature control, cleanliness, and pest control in storage facilities.	

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In the EU, packaging materials and containers used for food products, including nuts, are subject to specific requirements to ensure the safety and suitability of packaging. The EU has established regulations and guidelines that cover various aspects of food packaging. Here are some of the key EU requirements for food packaging:

Materials and Articles Intended to Come into Contact with Food: Regulation (EC) No 1935/2004 lays down the general principles and requirements for materials and articles intended to come into contact with food. This regulation ensures that food contact materials do not transfer harmful substances to the food and do not alter the organoleptic characteristics of the food.

Specific Regulations for Plastic Materials: Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food, OJ L 12, 15.1.2011, p. 1–89 - sets specific rules for plastic materials and articles intended to come into contact with food. It establishes guidelines for the use of plastic materials in food packaging and includes provisions for active and intelligent packaging.

Traceability: Packaging materials and articles must be traceable, and the identity of the supplier must be known to allow for recalls if necessary. This requirement is essential for ensuring the safety of food products.

Declaration of Compliance: Manufacturers and suppliers of food packaging materials must provide a declaration of compliance with EU regulations. This declaration confirms that the packaging materials meet the necessary safety requirements.

Migration Limits: Specific migration limits are established for certain substances used in food packaging, such as heavy metals, phthalates, and other potentially harmful substances. These limits ensure that packaging materials do not release harmful chemicals into food.

Labelling: Packaging materials must be labelled with essential information, including the materials used, the name and address of the manufacturer, and any specific instructions for use.

Recycling and Environmental Requirements: The EU promotes environmentally friendly packaging and encourages the use of recyclable materials. Regulations and directives related to packaging waste management set targets for recycling and reducing the environmental impact of packaging.

Novel Food Contact Materials: Novel food contact materials, which have not been previously used for food packaging in the EU, require specific authorization and safety assessment before they can be used.

Good Manufacturing Practices (GMP): Manufacturers of food packaging materials and articles are expected to follow good manufacturing practices to ensure the safety and hygiene of the production process.

Here are some key storage provisions for food in the EU (Regulation (EC) No 852/2004 on the Hygiene of Foodstuffs):

- Temperature Control:
- Hygiene and Cleanliness:
  - Storage facilities must meet strict hygiene standards to prevent contamination of food products.
  - Regular cleaning and sanitation of storage areas, equipment, and containers are essential.
  - Pest control measures should be in place to prevent infestations.
- Packaging & Separation of Products:
  - Food products should be stored in a way that prevents cross-contamination. For example, raw and cooked foods should be stored separately.
  - Allergenic ingredients must be stored separately to avoid accidental cross-contact.
- Traceability & Storage Records
  - Effective traceability systems must be in place to track the movement of food products within the supply chain, making it possible to identify the source of any quality or safety issues.
  - Accurate records of storage conditions, including temperature logs, should be maintained.
  - These records help demonstrate compliance with storage requirements and can be crucial in case of product recalls or quality issues.

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- Shelf-Life Management
  - Food businesses must monitor the shelf life of products in storage to ensure that products are not sold beyond their expiration dates.
  - First-in, first-out (FIFO) or similar stock rotation systems should be implemented to use older products before newer ones.
- Emergency Plans for Storage Facilities

Food businesses should have contingency plans in place to respond to emergencies, such as power outages or equipment failures, to prevent food spoilage.
For transport in addition to outlined above:
Vehicle Design and Maintenance: Vehicles used for food transport must be designed and maintained to ensure the safe and sanitary transport of food products. This includes proper ventilation, insulation, and refrigeration systems.
In conclusion, the European Union (EU) has established a comprehensive framework of specific requirements for the **transport and storage of foodstuffs, including nuts**. These regulations are characterized by their meticulous attention to detail and a strong emphasis on ensuring the safety, integrity, and quality of food products throughout the entire supply chain. Most of the EU requirements are not mentioned by the Chinese Standard.