



**COMPARISON  
OF HYGIENE LEGISLATION  
AND FOOD SAFETY STANDARDS**

For eggs and egg products

*This publication was produced with the financial support of the European Union. It reflects an analysis undertaken by AETS which remains without prejudice to the interpretation or enforcement of applicable legislation of China by the competent authorities.*

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## INTRODUCTION

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Imports of foodstuffs into the Peoples Republic of China (PRC) continues to increase. Nonetheless, Food Business Operators (FBOs) and exporters in the European Union (EU) fail to access this market due to lack of compliance with requirements laid down in Chinese food standards. The failure may be due, for example, to quality, labelling, packaging and certification issues or failure to comply with microbiological, contaminant or food additive limits which differ from those required under EU legislation.

This review explores the Chinese standards for the production and processing of eggs and egg products listed under on page 5. Each standard is assessed individually. The scope, contents and tables, where present, are evaluated and relevant points of interest and possible variations and differences with community legislation are highlighted.

One of the main difficulties in comparing Chinese standards with EU legislation is lack of access to officially translated Chinese regulatory documents into English. The English versions of the standards are unofficial and in some cases from non-verified commercial sources. Notwithstanding, each standard has been verified as the most up to date one available at the time of the evaluation, and a summary of subjects covered by each standard has been added.

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## LIST OF CHINESE NATIONAL STANDARDS ASSESSED

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<b>14881-2013</b>	Specifies basic requirements
<b>29921-2013</b>	Specifies limit values for specific microbial contaminants
<b>GB 2762-2017</b>	Food Safety Standard for Maximum Levels of Contaminants in Foods
<b>GB 2763-2019</b>	Food Safety Standard Maximum Residue Limits for Pesticides in Foods
<b>GB 2763-2021</b>	National Food Safety Standard Maximum Residue Limits for Pesticides in Foods
<b>GB 22921-2013</b>	Replacement as notified to WTO in SPS 1151- for Pathogenic Microorganism Limits in Food
<b>GB 2760- 2014</b>	Standard for food additives
<b>GB 14880- 2012</b>	National Food Safety Standard for the Use of Nutritional Fortification Substances in Foods
<b>GB 31650-2019</b>	on Maximum Residue Limits for Veterinary Drugs in Foods,
<b>GB 39438-2020</b>	in Force - Packed Egg
<b>GB 2749-2015</b>	Food Safety - Eggs and egg products
<b>GB 21710-2016</b>	Code of Hygienic Practice for the Production of Eggs and Egg Products
<b>GB/T 5009.47-2003</b>	Method for analysis of hygienic standard of egg and egg products
<b>GB/T 23970-2009</b>	Pot-roast egg
<b>GB/T 4789.19-2003</b>	Microbiological examination of food hygiene-Examination of egg and egg products
<b>GB/T 34262-2017</b>	Terms and classification of egg and egg products
<b>GB/T 25009-2010</b>	Criterion of producing management for egg products.
<b>GB/T 19495.8-2004</b>	Detection of genetically modified plants and derived products – Protein based methods
<b>GB/T 34238-2017</b>	Requirement for cleaning eggs in process and circulating.



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## RESULTS AND CONCLUSIONS

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As with all Chinese standards, the production of eggs and egg products is not governed by a single document but rather by a number of standards which repeat requirements for structures, hygiene, processing etc, but not always to the same level of detail or indeed in the same format. Another general point of note is classification of foods and the terminology used in the standards differ from those used in EU legislation.

An overlap with EU requirements was noted in a number of the standards evaluated. It was decided not to provide comparison tables in such cases.

Remarks have been included when points of variation or differences in degree of specificity have been identified noteworthy for the Standard reviewed.

Furthermore, tables of comparison have been added when the need to indicate deviations between the PRC and EU Standards has been identified.



## 1 SUMMARY COMPARISON

Subject	Evaluation result
<b>Chinese Food Safety Standards applicable to all Food products</b>	
<p><b>GB 14881-2013</b> in Force - General Hygiene Practice for Food Production</p> <p>This standard 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.</p>	<p>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.</p> <p>The relevant EU Regulations 852/2004 and 853/2004 set the standard requirements for general and specific hygiene rules for food stuffs that cover plant and workshop design and layout, equipment, health and hygiene management system, raw material, packaging, and training.</p> <p>The standards requested by the two legislations in comparison are the same, even though the Chinese standard enters more into specifics.</p> <p>Such specifics that most probably are dealt with by MS by the adoption of Standard Operating Procedures and specific HACCP protocols.</p>
<p><b>National standard 29921-2013</b> specifies limit values for specific microbial contaminants in food, including sampling and testing methods.</p>	<p>EU legislation defines food safety criteria that are applicable to products placed on the market and process hygiene criteria for the monitoring of food processing. In the Chinese National standard such a distinction is not made.</p> <p>Few differences were identified in the end points and testing methods</p>
<p><b>GB 2762-2017 - National Food Safety Standard for Maximum Levels of Contaminants in Foods</b></p> <p>This standard replaces the GB 2762-2012, National Food Safety Standard for Maximum Levels of Contaminants in Foods.</p>	<p>It sets limits for lead, cadmium, mercury, arsenic, tin, nickel, chromium, nitrite, nitrate, Benzo[a]pyrene, N-nitrosodimethylamine, polychlorinated biphenyl, 3-chloro-1, 2-propanediol in foods.</p> <p>Only egg and egg products will be compared with the relevant EU legal standards.</p> <p>In the Chinese National Standard limit values are defined for contamination with lead, cadmium and mercury in eggs and egg products while in EU legislation no limits are set.</p> <p>The ‘ALARA’ Principle applies (as low as reasonably achievable).</p> <p>These discrepancies are considered formal rather than substantial and will not affect consumer risk.</p> <p>There are also differences in criteria for selecting specific combinations of contaminants or contaminant groups and commodity groups to be controlled as well as the sampling strategy.</p> <p>These discrepancies are considered formal rather than substantial and will not affect consumer risk.</p>



Subject	Evaluation result
<p><b>GB 2763-2019</b> <b>National Food Safety Standard Maximum Residue Limits for Pesticides in Foods</b> GB 2763-2019 sets 7,107 maximum limits of 483 pesticides in 256 categories (kinds) of foods. This standard replaces the National Food Safety Standard Maximum Residue Limits for Pesticides in Food (GB 2763-2016) and the National Food Safety Standard Maximum Residue Limits for 43 Pesticides in Food (GB 2763.1-2018), and main technical changes are as follows compared with GB 2763-2016 and GB 2763.1-2018:</p> <p><b>GB 2763-2021 regulates 10,092 maximum residue limits of 564 pesticides (including 2,4-DB) in food. The standard applies to foods related to residue limits. The food categories and testing parts (Appendix A) are used to define the application scope of the pesticides' maximum residue limits, which applies only to this standard. The list of pesticides that are exempted from developing MRL standards in food (Appendix B) is used to define scope of pesticides that do not need to have MRL developed.</b></p>	<p>This has been replaced by GB 2073-2021</p> <p>Entitled "National Food Safety Standard - Maximum Residue Limits for Pesticides in Foods" (GB 2763-2021), this new standard will replace the current standard of the same title (GB2763-2019). Compared with GB 2763-2019, the updated standard contains an additional 81 pesticides and 2,985 new MRLs. While there may be additional changes in the final, this standard consolidates the previous version of the standard and the updates that have been made since it was last issued in 2019.</p> <p>The food categories and testing parts (Appendix A) are used to define the application scope of the pesticides' maximum residue limits, which applies only to this standard. The list of pesticides that are exempted from developing MRL standards in food (Appendix B) is used to define scope of pesticides that do not need to have MRL developed.</p> <p>24 Substances have higher limits in the EU and therefore trade may require testing for these substances to PRC limits.</p> <p>In all other cases EU testing programme should satisfy Chinese requirements.</p> <p>11 substances have no MRL in the EU. 3 substances are not listed in EU regulations.</p>
<p><b>GB 22921-2013 replacement as notified to WTO in SPS 1151- National Food Safety Standard for Pathogenic Microorganism Limits in Food</b> The Standard replaces GB 29921-2013 National Food Safety Standard Pathogenic Microorganism Limits in Food. The Standard specifies indexes, limit requirements and test methods for pathogenic microorganism in pre-packaged foods. It applies to pre-packaged foods other than foods subject to commercial sterility requirements.</p>	<p>EU legislation defines food safety criteria that are applicable to products placed on the market and process hygiene criteria for the monitoring of food processing. In the Chinese National standard such a distinction is not made.</p> <p>The levels for salmonella in EU Regulation 2073/2005 apply to a broad range of products while those in this standard only apply to pre-packaged foods.</p>



Subject	Evaluation result
<p><b>GB 2760- 2014 STANDARD FOR FOOD ADITIVES</b> This standard specifies the principles for application of food additives, the varieties of food additive which are allowed, the scope of application, and the maximum residue levels.</p>	<p>It provides definitions for food additives, maximum use level, maximum residue level, processing aid, and Chinese number system. It sets down a set of principles on basic requirements for the use of additives (Appendix A), where and how they can be applied and explains the food category system. Some food additives mentioned in the Chinese National Standard are not approved in the EU while some EU approved additives are not mentioned in the Chinese National Standards. <i>EU food business operators must ensure that only additives approved by Chinese Standards are used in products exported to China.</i> Only two food categories are listed in EU legislation while 13 are listed in the standard. However, many of those categories in the standard could be fall into the two categories in the EU.</p>
<p><b>GB 14880- 2012 National Food Safety Standard for the Use of Nutritional Fortification Substances in Foods</b> This Standard specifies the fundamental purposes of nutritional fortification in foods, the requirements of using nutritional fortification substances, the selection requirements for fortifiable food categories and application requirements for nutritional fortification substances. It is applicable to the application of nutritional fortification substances in foods, unless otherwise stated in national laws and regulations and/or standards. It provides definitions for Nutritional fortification substances, Nutrient, Other nutritional ingredients, and Foods for special diets.  It sets down the fundamental purposes of nutritional fortification, the requirements of using nutritional fortification substances, the selection requirements of fortification food categories and the rules applicable to nutritional fortification substances.</p>	<p>Regulation EC) No 1925/2006 of the European Parliament and the Council sets down rules for the addition of vitamins and minerals and of certain other substances to foods. It is more specific in content, lists permissible vitamins, Vitamin formulations and mineral substances and minerals that may be added to food.  The consolidated text provided a list of substances whose use in foods is prohibited, restricted or under Community scrutiny. Should have no implications for trade in eggs and egg products.</p>



Subject	Evaluation result																																								
<p><b>GB 31650-2019)- National Food Safety Standard on Maximum Residue Limits for Veterinary Drugs in Foods, which will take effect on April 1, 2020</b></p> <p>This standard stipulates the maximum residue limits of 104 varieties (categories) of veterinary drugs, such as Albendazole, in animal-derived food, specifies 154 drugs, such as acetic acid, which are permitted for use in food-producing animals but there is no need to set residue limits, and provides 9 veterinary medicines, such as Chlorpromazine, which are permitted for use in the treatment of the animal diseases but shall not be detected in animal derived food.</p> <p>This standard is applicable to the animal-derived food related to maximum residue limits. Egg refers to an in-shell egg produced by a domesticated female bird.</p>	<p>A number of differences have been noted for the following substances: Amprolium, Arsanilic acid/Roxarsone , Bacitracin, Deltamethrin, Fenbanel/ Fenbendazole/ Oxfendazole</p> <p><b>Table 40. Comparison between PRC and EU MRLs for veterinary drugs</b></p> <table border="1" data-bbox="848 429 2076 1302"> <thead> <tr> <th data-bbox="848 429 1169 499">Substance</th> <th data-bbox="1169 429 1391 499">GB 31650-2019 MRL µg/kg</th> <th data-bbox="1391 429 1812 499">Commission Regulation 37/2010 EU MRL µg /kg</th> <th data-bbox="1812 429 2076 499">Note</th> </tr> </thead> <tbody> <tr> <td data-bbox="848 499 1169 603">Amoxicillin (prohibited during egg producing period)</td> <td data-bbox="1169 499 1391 603"></td> <td data-bbox="1391 499 1812 603">Amoxicillin (prohibited during egg producing period)</td> <td data-bbox="1812 499 2076 1302" rowspan="13">MRL set in PRC legislation which will/may require additional testing for trade purposes are highlighted in red font.</td> </tr> <tr> <td data-bbox="848 603 1169 643">Amprolium</td> <td data-bbox="1169 603 1391 643">400</td> <td data-bbox="1391 603 1812 643">No MRL</td> </tr> <tr> <td data-bbox="848 643 1169 710">Arsanilic acid/Roxarsone</td> <td data-bbox="1169 643 1391 710">500</td> <td data-bbox="1391 643 1812 710">No MRL</td> </tr> <tr> <td data-bbox="848 710 1169 813">Avilamycin (prohibited during egg producing period)</td> <td data-bbox="1169 710 1391 813"></td> <td data-bbox="1391 710 1812 813">Avilamycin (prohibited during egg producing period)</td> </tr> <tr> <td data-bbox="848 813 1169 853">Bacitracin</td> <td data-bbox="1169 813 1391 853">500</td> <td data-bbox="1391 813 1812 853">No MRL</td> </tr> <tr> <td data-bbox="848 853 1169 893">Chlortetracycline</td> <td data-bbox="1169 853 1391 893"></td> <td data-bbox="1391 853 1812 893">200</td> </tr> <tr> <td data-bbox="848 893 1169 933">Colistin</td> <td data-bbox="1169 893 1391 933">300</td> <td data-bbox="1391 893 1812 933">300</td> </tr> <tr> <td data-bbox="848 933 1169 1035">Danofloxacin (prohibited during egg producing period)</td> <td data-bbox="1169 933 1391 1035"></td> <td data-bbox="1391 933 1812 1035">Danofloxacin (prohibited during egg producing period)</td> </tr> <tr> <td data-bbox="848 1035 1169 1075">Deltamethrin</td> <td data-bbox="1169 1035 1391 1075">30</td> <td data-bbox="1391 1035 1812 1075">No MRL</td> </tr> <tr> <td data-bbox="848 1075 1169 1179">Difloxacin (prohibited during egg producing period)</td> <td data-bbox="1169 1075 1391 1179"></td> <td data-bbox="1391 1075 1812 1179">Difloxacin (prohibited during egg producing period)</td> </tr> <tr> <td data-bbox="848 1179 1169 1302">Doxycycline prohibited during egg producing period)</td> <td data-bbox="1169 1179 1391 1302"></td> <td data-bbox="1391 1179 1812 1302">Doxycycline prohibited during egg producing period)</td> </tr> </tbody> </table>			Substance	GB 31650-2019 MRL µg/kg	Commission Regulation 37/2010 EU MRL µg /kg	Note	Amoxicillin (prohibited during egg producing period)		Amoxicillin (prohibited during egg producing period)	MRL set in PRC legislation which will/may require additional testing for trade purposes are highlighted in red font.	Amprolium	400	No MRL	Arsanilic acid/Roxarsone	500	No MRL	Avilamycin (prohibited during egg producing period)		Avilamycin (prohibited during egg producing period)	Bacitracin	500	No MRL	Chlortetracycline		200	Colistin	300	300	Danofloxacin (prohibited during egg producing period)		Danofloxacin (prohibited during egg producing period)	Deltamethrin	30	No MRL	Difloxacin (prohibited during egg producing period)		Difloxacin (prohibited during egg producing period)	Doxycycline prohibited during egg producing period)		Doxycycline prohibited during egg producing period)
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Subject	Evaluation result								
<p><b>Specific Standards for Eggs and Egg Products</b></p> <p><b>GB 39438-2020 in Force - Packed Egg</b> This standard applies to the production and distribution of packaged eggs. It specifies the terms and definitions, grading, test methods, inspection rules, packaging, labelling, and marking, storage, transport, and marketing of packaged eggs.</p>	<p>Regulation 598/2008 sets down the rules applicable to table eggs. Only eggs from the species <i>Gallus gallus</i> may be used whereas eggs from a range of species is covered in the Chinese standard. There are differences in the definitions used, the grading methods applied, the storage, packaging and labelling requirements as outlined under. However, these should not pose trade issues given EU requirements are generally more specific.</p> <table border="1" data-bbox="842 459 2074 1380"> <thead> <tr> <th data-bbox="842 459 1413 499">GB 39438-2020</th> <th data-bbox="1413 459 2074 499">COMMISSION REGULATION (EC) No 589/2008</th> </tr> </thead> <tbody> <tr> <td data-bbox="842 499 1413 659"> <p><b>Packed egg</b> - Fresh eggs that have been cleaned, graded, coded (or uncoded) and packaged to a uniform specification for sale.</p> </td> <td data-bbox="1413 499 2074 659"> <p>No definition for packed egg. However, the term pack is defined as follows: 'pack' means a wrapping containing Class A or B eggs, excluding transport packaging and containers of industrial eggs;</p> </td> </tr> <tr> <td data-bbox="842 659 1413 922"> <p><b>Group batches</b> - Packages of the same breed from the same egg farm produced on the same day or shift shall be considered as a group lot.</p> </td> <td data-bbox="1413 659 2074 922"> <p>The EU definition is more detailed. 'batch' means the eggs in packs or loose from one and the same production site or packing centre, situated in one place, in the same packs or loose, with one and the same laying date or date of minimum durability or packing date, the same farming method, and in the case of graded eggs, the same quality and weight grading:</p> </td> </tr> <tr> <td data-bbox="842 922 1413 1380"> <p>The standard sets down inspection types that must be carried out in the factory setting as follows. <b>Appearance inspection:</b> If the package specifications are listed in Appendix C, Table C.1, a random sample shall be taken in accordance with the sample size specified in Table C.1 for appearance inspection. <b>Packaging specifications</b> are not listed in Table C.1, in accordance with GB/T 2828.1-2012 in Table 1 and Table 2-A retrieval of sample size, according to the required number of samples for appearance inspection.</p> </td> <td data-bbox="1413 922 2074 1380"> <p>The following tolerances shall be allowed when checking batches of Class, A eggs: (a) at the packing centre, just before dispatch: 5 % of eggs with quality defects. (b) at the other marketing stages: 7 % of eggs with quality defects. 2. For eggs marketed as 'extra' or 'extra fresh', no tolerance shall be allowed for the height of the air space at the time of packing or import. 3. Where the batch checked contains fewer than 180 eggs, the percentages shall be doubled. A tolerance of 20 % of eggs with marks that are illegible shall be allowed in the checking of batches and packs.</p> </td> </tr> </tbody> </table>	GB 39438-2020	COMMISSION REGULATION (EC) No 589/2008	<p><b>Packed egg</b> - Fresh eggs that have been cleaned, graded, coded (or uncoded) and packaged to a uniform specification for sale.</p>	<p>No definition for packed egg. However, the term pack is defined as follows: 'pack' means a wrapping containing Class A or B eggs, excluding transport packaging and containers of industrial eggs;</p>	<p><b>Group batches</b> - Packages of the same breed from the same egg farm produced on the same day or shift shall be considered as a group lot.</p>	<p>The EU definition is more detailed. 'batch' means the eggs in packs or loose from one and the same production site or packing centre, situated in one place, in the same packs or loose, with one and the same laying date or date of minimum durability or packing date, the same farming method, and in the case of graded eggs, the same quality and weight grading:</p>	<p>The standard sets down inspection types that must be carried out in the factory setting as follows. <b>Appearance inspection:</b> If the package specifications are listed in Appendix C, Table C.1, a random sample shall be taken in accordance with the sample size specified in Table C.1 for appearance inspection. <b>Packaging specifications</b> are not listed in Table C.1, in accordance with GB/T 2828.1-2012 in Table 1 and Table 2-A retrieval of sample size, according to the required number of samples for appearance inspection.</p>	<p>The following tolerances shall be allowed when checking batches of Class, A eggs: (a) at the packing centre, just before dispatch: 5 % of eggs with quality defects. (b) at the other marketing stages: 7 % of eggs with quality defects. 2. For eggs marketed as 'extra' or 'extra fresh', no tolerance shall be allowed for the height of the air space at the time of packing or import. 3. Where the batch checked contains fewer than 180 eggs, the percentages shall be doubled. A tolerance of 20 % of eggs with marks that are illegible shall be allowed in the checking of batches and packs.</p>
GB 39438-2020	COMMISSION REGULATION (EC) No 589/2008								
<p><b>Packed egg</b> - Fresh eggs that have been cleaned, graded, coded (or uncoded) and packaged to a uniform specification for sale.</p>	<p>No definition for packed egg. However, the term pack is defined as follows: 'pack' means a wrapping containing Class A or B eggs, excluding transport packaging and containers of industrial eggs;</p>								
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Subject	Evaluation result	
	<p><b>Inspection of the contents:</b> From the sample after the appearance inspection (without taking into account the results of the appearance inspection), 30 eggs are taken by equidistant sampling for the inspection of the contents.</p> <p>If the number of samples required equals or exceeds the batch size, a 100% inspection is carried out.</p> <p>The sampling plan and the number of eggs received in different sizes are shown in Table C.1</p>	
	<p><b>Egg Grading - See table 5</b></p>	<p><b>See Table 6</b></p>
	<p><b>Egg shell labelling - Marking on the eggshell</b> is desirable and should include, but not be limited to, the manufacturer's (or packer's) <b>code</b> (or trademark) and the date of production (or packaging). The marking should be of food grade material.</p>	<p>The producer <b>code</b> shall consist of the codes and letters provided for in point 2 of the Annex to Directive 2002/4/EC. It shall be easily visible and clearly legible and be at least 2 mm high. The indication referred to in point 1 of part A, III of Annex XIV to Regulation (EC) No 1234/2007 shall be a circle at least 12 mm in diameter around the letter 'B' at least 5 mm high, or an easily visible colour spot of at least 5 mm in diameter.</p>
	<p><b>Labelling of packages for sale</b></p> <p>The minimum sales package shall be labelled with the</p> <ul style="list-style-type: none"> <li>• Name,</li> <li>• Date of manufacture,</li> <li>• Name, address and contact details of the manufacturer (or packer),</li> <li>• Product execution standard,</li> <li>• Net content,</li> <li>• Quality level,</li> <li>• Batch number,</li> <li>• Shelf life,</li> <li>• Storage conditions, etc.</li> </ul>	<p>Packs containing Class A eggs shall bear on the outer surface in easily visible and clearly legible type:</p> <ul style="list-style-type: none"> <li>(a) the packing centre code.</li> <li>(b) the quality grading; packs shall be identified either by the words 'Class A' or the letter 'A,' whether alone or in combination with the word 'fresh.'</li> <li>(c) the weight grading in accordance with Article 4(2) of this Regulation.</li> <li>(d) the date of minimum durability in accordance with Article 13 of this Regulation.</li> <li>(e) the wording 'washed eggs' for eggs washed in accordance with Article 3 of this Regulation.</li> <li>(f) as a special storage condition in accordance with Article 3(1)(6) of Directive 2000/13/EC, an indication</li> </ul>



Subject	Evaluation result	
	The principles and form of labelling shall comply with the requirements of Appendix D.	advising consumers to keep eggs chilled after purchase.
	<p><b>Labelling of packages for Transport</b> Transport packaging should be marked with the</p> <ul style="list-style-type: none"> <li>• Name,</li> <li>• Date of manufacture,</li> <li>• Name of the manufacturer (or packer),</li> <li>• Net content,</li> <li>• Transport and storage precautions, etc.,</li> <li>• And marked graphically in accordance with the relevant requirements of GB/T191</li> </ul>	<p>(a) the producer's name and address. (b) the producer codes. (c) the number of eggs and/or their weight. (d) the laying date or period. (e) the date of dispatch.</p>
	<b>Shelf Life</b> – not specified in this standard. May be set in other standards	28 days post laying
	<p><b>Storage conditions</b> Packaged eggs should be stored, transported, and sold at an ambient temperature of 0°C to 25°C and a relative humidity of 70% to 88%. They shall not be mixed with toxic, harmful, corrosive, or odorous goods.</p>	<p>Eggs should be stored and transported preferably at a constant temperature and should in general not be refrigerated before sale to the final consumer. Class A eggs shall not be treated for preservation or chilled in premises or plants where the temperature is artificially maintained at less than 5 °C. However, eggs which have been kept at a temperature below 5 °C during transport for not more than 24 hours or on retail premises or in annexes thereto for not more than 72 hours shall not be considered as chilled.</p>



Subject	Evaluation result
<p><b>GB 2749-2015 in Force National Standards for Food Safety - Eggs and egg products</b> This standard applies to fresh eggs and egg products. It specifies terms and definitions, sensory requirements, quality criteria, test methods, and sets microbiological and contaminant levels for fresh eggs and egg products.</p>	<p>The requirements in the PRC standard are not as specific as those laid down in EU regulations, but differences do apply regarding definitions.</p> <p>The microbiological standards are consistent with Chinese requirements.</p>
<p><b>GB 21710-2016 -National Food Safety Standards Code of Hygienic Practice for the Production of Eggs and Egg Products</b> This standard applies to the production of eggs and egg products. It specifies the basic requirements and management guidelines for premises, facilities, and personnel in the production of eggs and egg products in relation to the procurement of raw materials, product flow, processing, packaging, storage, and transport. It emphasises the necessity to separate work areas of differing cleanliness levels e.g., the areas for shelling, pasteurisation, and filling.</p> <p>It also lists major control measures for biological, chemical, and physical contaminations by for example adopting measures to prevent cross-contamination of personnel, raw materials, packaging materials, waste and equipment entering and leaving the clean work area, such as setting up a changing room for personnel to change their work clothes, work shoes or shoe covers, setting up special logistics channels and waste channels.</p> <p>The microbial monitoring procedure of food processing shall include microbial monitoring indexes, sampling points, monitoring frequency, sampling and inspection method, evaluation principles and rectification measures. The specific items may be developed by reference to the requirements of Appendix A of 14881-2013 in combination with production process and product characteristics.</p>	<p>The relevant EU Regulations are 852/2004 and 853/2004 that set the standards requirements for general and specific hygiene rules for food stuffs that cover plant and workshop design and layout, equipment, health and hygiene management system, raw material, packaging, and training.</p> <p>The standards requested by the two legislations in comparison are the same, even though the Chinese standard enters more into specifics; conditions that most probably MS set up nationally to reflect the EU Regulation or enter in SOPs and specific HACCP protocols.</p>



Subject	Evaluation result
<p><b>GB/T 5009.47-2003 Method for analysis of hygienic standard of egg and egg products</b></p> <p>This standard applies to the analysis of various health indicators in eggs and egg products. It specifies the analytical methods for the hygienic indicators in eggs and egg products.</p>	<p>There is no direct equivalent in EU legislation for eggs and egg products. However, Chapter II of Commission Implementing regulation 2019/627 laying down uniform practical arrangements for the performance of official controls on products of animal origin intended for human consumption in accordance with Regulation (EU) 2017/625 of the European Parliament and of the Council and amending Commission Regulation (EC) No 2074/2005 as regards official controls specifies in Annex VI, Chapter II the <u>CONTROLS ON TOTAL VOLATILE BASIC NITROGEN (TVB-N)</u> for certain categories of fishery products and analysis methods to be used.</p> <p>In addition, EU regulation 853/2004 require eggs used in the production of egg products to be analysed for the following specifications:</p> <p>The concentration of 3-OH-butyric acid must not exceed 10 mg/kg in the dry matter of the unmodified egg product.</p> <p>The lactic acid content of raw material used to manufacture egg products must not exceed 1 g/kg of dry matter. However, for fermented products, this value must be the one recorded before the fermentation process.</p> <p>The quantity of eggshell remains, egg membranes and any other particles in the processed egg product must not exceed 100 mg/kg of egg product.</p>





Subject	Evaluation result
<p><b>GB/T 4789.19-2003 - Microbiological examination of food hygiene- Examination of egg and egg products</b></p> <p>This standard applies to the inspection of fresh eggs and egg products. It specifies the basic requirements and test methods for the inspection of eggs and egg products. It lays down rules in relation to testing equipment and materials, laboratory supplies and culture media and reagents. It details procedures in connection with taking and preparation of samples, the handling of samples and sending such samples to the laboratory for analysis. It provides specifics on the number of eggs and egg products inoculated and the quantity and composition of the medium: When using Brilliant Green selenite to enrich the culture, the number of samples inoculated for each egg and egg product was 30 g and the quantity of medium was 150 ml. When using Brilliant Green broth to enrich the culture, the number of samples inoculated, the quantity and concentration of the medium.</p>	<p>There is no direct equivalent food hygiene legislation in EU which lays down the type of sampling equipment, sampling rules and handling and processing of samples.</p> <p>However, many of the requirements are possibly addressed in various ISO standards for sampling and testing procedures.</p>
<p><b>GB/T 34262-2017 -Terms and classification of egg and egg products</b> <b>This standard applies to the processing, inspection, logistics and marketing of eggs and egg products.</b></p> <p>This standard specifies the terminology and its definition, classification principles and classification of eggs and egg products.</p> <p>It states the classification of eggs and egg products is based on their properties and degree of processing, and it provides a list of both these categories i.e., eggs and egg products.</p> <p>It should be noted that some of the classifications used are not defined in the standard e.g., bad drunk eggs, skinned eggs, tea scented eggs.</p>	<p>Some of the definitions used in the standard are similar to EU definitions but not exactly the same.</p> <p>The PRC standard covers terminology and definitions which are</p> <ul style="list-style-type: none"> <li>• either not present in EU legislation,</li> <li>• known by another term/name in the EU,</li> <li>• not manufactured in the EU.</li> </ul>



Subject	Evaluation result
<p><b>GB/T 25009-2010 -Criterion of producing management for egg products.</b></p> <p>This standard applies to the quality management of the production process of <u>egg product</u> processing enterprises. It defines egg products as all kinds of finished products or semi-finished products made from poultry eggs as the main raw material (with more than 50% of egg content) through relevant processing techniques.</p> <p>It requires the plant producing egg products to establish a documented, effective quality management system, based on HACCP principles, which ensures all products are manufactured in conformity with the relevant quality and food safety requirements.</p> <p>It requires a documentation system that follows defined principles, and which clearly shows how the system was developed and controlled throughout its evolution. The resulting records must be maintained and be easily retrievable to provide evidence of compliance with requirements and the effective operation of the egg processing quality management system. Documented procedures shall be developed to specify the controls required for the identification, storage, protection, retrieval, retention periods and disposal of records.</p> <p>It sets down requirements for raw materials and their preservation e.g., eggs must only be used if laid by healthy poultry within 1 week of processing, must be stored in a clean environment at a temperature of 0°C to 25°C.</p> <p>It requires products be labelled in accordance with the Regulations on Food Labelling. The production batch number should be indicated on the outer packaging by an explicit or coded code to facilitate warehouse management and traceability operations of the finished product.</p>	<p>The definition for Egg products used in the standard differs from that in EU legislation i.e.</p> <p><i>All kinds of finished products or semi-finished products made from poultry eggs as the main raw material (with more than 50% of egg content) through relevant processing techniques.</i></p> <p>It is equivalent to Regulation 852/2004 in terms of building requirements, layout, room finishes, and product flows, hygiene, cleaning, personnel, health and safety, training etc. It also sets down pre-requisite programmes in line with 852/2004 and the necessity to have controls based on HACCP e.g., documentation, documentation control and records.</p> <p>Broadly in line with EU legislation.</p>
<p><b>GB/T 19495.8-2004 - Detection of genetically modified plants and derived products – Protein based methods.</b></p> <p>The assays listed in the appendix are based on existing antibody-based assays. This part of GB/T 19495 applies to methods for the qualitative and quantitative detection of genetically modified products based on the detection of target proteins.</p>	<p>There is no direct equivalent food hygiene legislation in EU which lays down rules on the qualitative and quantitative detection of genetically modified products. However, if the totality of food hygiene EU legislation is considered, then the requirements specified in this standard would be addressed.</p> <p>This is a laboratory centric document and should be examined by those with knowledge of the specific methods mentioned.</p>



Subject	Evaluation result
<p><b>GB/T 34238-2017 Requirement for cleaning eggs in process and circulating.</b></p> <p>This standard applies to places selling clean eggs such as wholesale markets, supermarkets, distribution centres and farmers' markets specialising in eggs or both.</p> <p>It also applies to the logistics of e-commerce for clean eggs.</p> <p>It lays down some general requirements for Factories (~packing centres)</p> <p>It specifies the terminology and definitions, processing, packaging, storage, transport, sales, and traceability requirements of the technical specifications for the processing and distribution of clean eggs.</p> <p>It provides definitions for Fresh eggs and clean eggs and specifies general requirements for packing centres, the equipment used therein, the production operatives, management, the packaging materials, labelling, storage**and transport equipment which are broadly equivalent to EU legislation.</p> <p>It provides for general requirements at the point of sale regarding storage, maintenance of records and ensuring disposal of non-conforming products.</p>	<p>Although, it is stated the standard applies to wholesale markets, supermarkets, distribution centres and farmers' markets specialising in eggs, these terms do not appear in the text. One must assume the term point of sale addresses these sales points.</p> <p>While limited, some of the principles in the standard are broadly in line with EU Regulation 852/2004 e.g., plant and equipment requirements, personnel, training, and management and with EU Regulation 178/2002 regarding traceability.</p> <p>Some of the conditions on transport specified in the PRC standard are dealt with under good manufacturing practices in the EU.</p> <p>There are a number of differences in the maximum levels for some of the additives, which need to be considered for trade purposes.</p>



## 2 DETAILED ANALYSIS

### 2.1 GENERAL REQUIREMENTS FOR EGG AND EGG PRODUCTS – GB 21710-2016

\*The detailed analysis carried out on GB 14881-2013 should be read in conjunction with this analysis as the comparison refers to it throughout.

#### National standard GB 21710-2016 – Code of Hygienic Practice for the Production of Eggs and Egg Products

Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p><b>Scope</b>                      This standard specifies the basic requirements and management guidelines for premises, facilities, and personnel in the production of eggs and egg products in relation to the procurement of raw materials, processing, packaging, storage, and transport.                      This standard applies to the production of eggs and egg products.</p>	<p><b>Regulation 852/2004</b>  <b>Article 1<sup>1</sup> Scope</b> This Regulation lays down general rules for food business operators on the hygiene of foodstuffs, taking particular account of the following principles:                      (a) primary responsibility for food safety rests with the food business operator;                      (b) it is necessary to ensure food safety throughout the food chain, starting with primary production;                      (c) it is important, for food that cannot be stored safely at ambient temperatures, particularly frozen food, to maintain the cold chain;                      (d) general implementation of procedures based on the HACCP principles, together with the application of good hygiene practice, should reinforce food business operators' responsibility; <sup>1</sup> <b>unless specified otherwise, Articles in this table refer to Regulation 852/2004</b>  <b>Article 1 Scope (cont.)</b>                      (e) guides to good practice are a valuable instrument to aid food business operators at all levels of the food chain with compliance with food hygiene rules and with the application of the HACCP principles;                      (f) it is necessary to establish microbiological criteria and temperature control requirements based on a scientific risk assessment;                      (g) it is necessary to ensure that imported foods are of at least the same hygiene standard as food produced in the Community or are of an equivalent standard.                      This Regulation shall apply to all stages of production, processing, and distribution of food and to exports, and without prejudice to more specific requirements relating to food hygiene.</p>	



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p><b>2. Terms and Definitions</b>  <b>The definition in GB 14881-2013 applies to this standard</b>            Various terms are defined such as:            Contamination, monitoring, contact surface, food processing location, etc.</p>	<p><b>Article 2 Definitions</b>            Various terms are defined such as:            Food hygiene, establishment, contamination, processing, processed products, unprocessed products, etc.</p>	
<p><b>Site selection and plant surroundings shall comply with the relevant conditions of Chapter 3 in GB 14881-2013</b></p>	<p><b>Regulation (EC) No 853/2004, Article 4</b> states that establishments handling products of animal origin shall not operate unless the competent authority has approved them following an on-site visit.</p> <p><b>Article 4, 1.</b>            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 of Annex I.            Annex I, II, 3 a) states:            a) measures to control contamination arising from the air, soil, water, feed, fertilisers, veterinary medicinal products, plant protection products and biocides and the storage, handling, and disposal of waste;</p> <p><b>Article 4, 2.</b>            Food business operators carrying out any stage of production, processing, and distribution of food after those stages to which paragraph 1 applies (<i>see Article 4.1.</i>) shall comply with the general hygiene requirements laid down in Annex II. Chapter I of Annex II states:            Food premises are to be kept clean and maintained in good repair and condition.</p> <p><b>Regulation (EC) No 852/2004, Annex II, Chapter I, 8</b> states:            Drainage facilities are to be adequate for the purpose intended. They are to be designed and constructed to avoid the risk of contamination. Where drainage channels are fully or partially open, they are to be so designed as to ensure that waste does not flow from a contaminated area towards or</p>	<p><b>Guidance document Commission Notice 2016/C 278/01, Annex I, Examples of PRPs</b>  <b>2.1 Infrastructure:</b>            a) When assessing the risk from the location and surrounding areas, the proximity of potential sources of contamination, water supply, wastewater removal, power supply, access for transport, climate, possible flooding, ... should be taken into account.</p> <p><i>In the EU Guidance Document on the implementation of certain provisions of Regulation (EC) No 852/2004 on the hygiene of foodstuffs (Brussels 2018) it is stated that:</i>            “Food premises” is not limited to the rooms where foodstuffs are handled or processed. It includes, additionally, and where applicable, the immediately surrounding area within the perimeter of the food business operation site.</p> <p><i>The requirements for approval are explained in detail in the EU Guidance Document on the implementation of certain provisions of Regulation (EC) No 853/2004 on the hygiene of food of animal origin (SANCO/10098/2009 Rev. 3 (POOL/G4/2009/10098/10098R3-EN.doc of 2018).</i></p>



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p><b>4. Design and Layout should comply with the provisions of 4.1 in GB 14881-2013</b></p> <p>4.1.2 Plants and workshops should be reasonably designed, constructed and planned with relevant facilities and equipment appropriate to the production to prevent microbiological breeding and contamination, in particular Salmonella contamination, and the area for receiving and storing raw materials should be separated from the area for processing and packaging the final product; the area for storing, producing or handling edible products should be clearly separated from the area for handling inedible substances; the areas for shelling, pasteurisation and filling should be separated. The areas for shelling, pasteurisation and filling should be separated to prevent cross-contamination.</p> <p>4.1.3 The structure and design of the plant shall ensure that the processing of eggs and egg products is carried out in an orderly manner and that suitable temperature and humidity conditions are provided.</p> <p>4.1.4 Work areas should be divided into cleanliness levels in accordance with production processes and hygiene requirements, and in principle be divided into general work areas, quasi-clean work areas and clean work areas, with effective separation between work areas of different cleanliness levels.</p> <p>4.1.5 There should be reasonable restrictions and control measures for access to and from the clean working area to avoid or reduce microbiological contamination. There should be measures to prevent cross-contamination of personnel, raw materials, packaging materials, waste and equipment entering and leaving the clean work area, such as setting up a changing room for personnel to change their work clothes, work shoes or shoe covers, setting up special logistics channels and waste channels.</p>	<p>into a clean area, in particular an area where foods likely to present a high risk to the final consumer are handled.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I, 2. states: The layout, design, construction, and size of food premises are to:</p> <p>(a) permit adequate maintenance, cleaning and/or disinfection, avoid or minimise air-borne contamination, and provide adequate working space to allow for the hygienic performance of all operations;</p> <p>(b) be such as to protect against the accumulation of dirt, contact with toxic materials, the shedding of particles into food and the formation of condensation or undesirable mould on surfaces;</p> <p>(c) permit good food hygiene practices, including protection against contamination and, in particular, pest control; and</p> <p>(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.</p>	



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p>4.1.6 The enterprise shall set standards according to the actual situation to ensure that the air purification level of each operation area meets the requirements for air purification for egg and egg product processing, and shall conduct regular tests, the interval between tests shall be no more than 3 months.</p>		
<p><b>4.2 Internal structure and materials of the building shall comply with the provisions of 4.2 of GB 14881 -2013</b></p> <p><b>Internal structure</b></p> <p>The building's internal structure shall be easy for maintenance, cleaning or disinfection and shall be constructed with appropriate durable materials.</p> <p>4.2.2 Ceiling</p> <p>4.2.1.1 Ceiling shall be constructed with nontoxic, odourless materials to meet the production demand and easy for observing cleaning condition. If it is directly coated on the inner-layer of the roof as ceiling, nontoxic, odourless, and mould-proof coatings which are difficult for shedding and easy for cleaning shall be used. 4.2.1.2 Ceiling shall be easy for cleaning and disinfection, but difficult for condensed water to vertically drip so that insects and mould can be prevented from breeding.</p> <p>4.2.1.3 Pipelines of accessories for steam, water and electricity shall not be arranged above the exposed food. If it's unavoidable, device or measure to prevent dust from scattering and water drop from dripping shall be provided.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter II, 1</p> <p>In rooms where food is prepared, treated, or processed (excluding dining areas and those premises specified in Chapter III, but including rooms contained in means of transport) the design and layout are to permit good food hygiene practices, including protection against contamination between and during operations.</p> <p>(c) ceilings (or, where there are no ceilings, the interior surface of the roof) and overhead fixtures are to be constructed and finished so as to prevent the accumulation of dirt and to reduce condensation, the growth of undesirable mould and the shedding of particles;</p>	<p><i>For establishments producing food of animal origin additional requirements for internal structure and materials of the building are specified in more detail in <b>Regulation (EC) No 853/2004</b>.</i></p>
<p>4.2.3 Wall</p> <p>4.2.3.1 Wall surface and partition shall be constructed with nontoxic, odourless, and anti-seepage materials. Wall surface within the range of operation height shall be smooth, difficult for accumulating dirt and easy for cleaning. If coatings are necessary, they shall be</p>	<p>(b) wall surfaces are to be maintained in a sound condition and be easy to clean and, where necessary, to disinfect. This will require the use of impervious, non-absorbent, washable, and non-toxic materials and require a smooth surface up to a height appropriate for the operations unless food business operators can satisfy the competent authority that other materials used are appropriate;</p>	



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p>nontoxic, odourless, mould-proof, difficult for shedding and easy for cleaning.</p> <p>4.2.3.2 Wall, partition and ground junctions shall be reasonable in structure, easy for cleaning and effectively avoid the accumulation of dirt, for example, the arrangement of smooth and accessible surfaces.</p>		
<p><b>4.2.4 Doors and windows</b></p> <p>4.2.4.1 Doors and windows shall be closed firmly. Door surface shall be smooth, adsorption-proof, anti-seepage and easy for cleaning and disinfection. They shall be made of waterproof, solid, and non-deformable materials.</p> <p>4.2.4.2 Doors of clean operating area, quasi-cleaning operation area and other areas shall be able to timely be shut down.</p> <p>4.2.4.3 Window glass shall be made of breakage-proof materials. If simple glass is used, necessary measures shall be taken to prevent contamination on materials, packaging materials and foods after glass breakage.</p> <p>4.2.4.4 If windows are arranged with sills, their structure shall be able to avoid dust accumulation and be easy for cleaning. Windows able to open shall be equipped with insect pest prevention window screen which is easy for cleaning.</p>	<p>(d) windows and other openings are to be constructed to prevent the accumulation of dirt. Those which can be opened to the outside environment are, where necessary, to be fitted with insect-proof screens which can be easily removed for cleaning. Where open windows would result in contamination, windows are to remain closed and fixed during production;</p> <p>(e) doors are to be easy to clean and, where necessary, to disinfect. This will require the use of smooth and non-absorbent surfaces unless food business operators can satisfy the competent authority that other materials used are appropriate;</p>	
<p><b>4.2.5 Ground</b></p> <p>4.2.5.1 Ground shall be made of nontoxic, odourless, anti-seepage and corrosion-resistant materials. The ground structure shall contribute to sewage discharge and cleaning.</p> <p>4.2.5.2 Ground shall be flat, anti-skid, crack-free and easy for cleaning and disinfection and shall be provided with appropriate measures to prevent accumulated water.</p>	<p>(a) floor surfaces are to be maintained in a sound condition and be easy to clean and, where necessary, to disinfect. This will require the use of impervious, non-absorbent, washable, and non-toxic materials unless food business operators can satisfy the competent authority that other materials used are appropriate. Where appropriate, floors are to allow adequate surface drainage;</p>	<p><i>More detailed requirements on this subject (ground) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.3:</b></i></p> <p>e) The presence of an indoor pool of water should be immediately addressed.</p>
<p><b>5 Facilities and Equipment</b></p> <p><b>5.1 Facilities</b></p> <p><b>5.1.1 Water supply facilities</b></p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter VII:</p> <p>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;</p>	





Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p>5.1.2.3 Outlet of drainage system shall be provided with appropriate measures to lower the risk of insect attack.</p> <p>5.1.2.4 Indoor drainage shall flow from areas with high cleanliness to those with low cleanliness and shall be designed to prevent backflow.</p> <p>5.1.2.5 Sewage shall be disposed of properly before discharge on order to meet relevant national requirements on sewage discharge.</p>		
<p><b>5.1.3 Cleaning and disinfection facilities should comply with the provisions of 5.1.3 in GB 14881-2013</b></p> <p>Sufficient specialized cleaning facilities for food, tools and instruments and equipment shall be provided; where necessary, appropriate disinfection facilities shall be provided. Measures shall be taken to avoid cross contamination caused by tools and instruments for cleaning and disinfection.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I, 10: Cleaning agents and disinfectants are not to be stored in areas where food is handled.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter II, 2: Adequate facilities are to be provided, where necessary, for the cleaning, disinfecting and storage of working utensils and equipment. These facilities are to be constructed of corrosion-resistant materials, be easy to clean and have an adequate supply of hot and cold water.</p>	
<p><b>5.1.4 Waste storage facilities should comply with the provisions of 5.1.4 in GB 14881-2013</b></p> <p>Specialized facilities for storing waste which are reasonably designed, anti-seepage and easy for cleaning shall be provided. Facilities and containers for storing waste in the workshop shall be marked clearly. Where necessary, facilities for storing waste temporarily shall be arranged in appropriate site and waste shall be stored in classes according to characteristics.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter VI:</p> <ol style="list-style-type: none"> <li>1. Food waste, non-edible by-products and other refuse are to be removed from rooms where food is present as quickly as possible, so as to avoid their accumulation.</li> <li>2. Food waste, non-edible by-products and other refuse are to be deposited in closable containers, unless food business operators can demonstrate to the competent authority that other types of containers or evacuation systems used are appropriate. These containers are to be of an appropriate construction, kept in sound condition, be easy to clean and, where necessary, to disinfect.</li> <li>3. Adequate provision is to be made for the storage and disposal of food waste, non-edible by-products, and other refuse. Refuse stores are to be designed and managed in such a way as to enable them to be kept clean and, where necessary, free of animals and pests.</li> <li>4. All waste is to be eliminated in a hygienic and environmentally friendly way in accordance with Community</li> </ol>	



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
	legislation applicable to that effect and is not to constitute a direct or indirect source of contamination.	

Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p><b>5.1.5 Personal hygienic facilities should comply with the provisions of 5.1.5 in 14881-2013</b></p> <p>5.1.5.1 Changing room shall be arranged at the entrance of production location or production workshop. Where necessary, changing room may be arranged at the entrance of the specific operating area as needed. The changing room shall be designed to ensure that work clothes, personal clothes and other articles can be kept apart.</p> <p>5.1.5.2 Facilities for changing shoes (putting on shoe covers) or disinfection facilities for work shoes or boots shall be arranged as needed at the entrance and necessary places of the production workshop. If disinfection facilities for work shoes or boots are needed, their specification and size shall meet the requirements of disinfection. 5.1.5.3 Restroom shall be arranged as needed. Its structure, facilities and internal materials shall be easy to keep clean. Facilities for washing hand shall be arranged at proper place in the rest room. The restroom shall not be directly connected with areas for food production, packaging, or storage.</p> <p>5.1.5.4 Facilities for washing and drying hand and disinfection shall be arranged at the entrance of clean operating area. If necessary, facilities for washing hand and (or) disinfection shall be arranged in the operating area. For the faucets that are matched with disinfection facilities, their switches shall be non-manual.</p> <p>5.1.5.5 Quantity of the faucets for hand washing facilities shall be matched with the number of food processing personnel of the same shift. Where necessary, mixer of cold and hot water shall be arranged. Wash basins shall be</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I, 9. Where necessary, adequate changing facilities for personnel are to be provided.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter VIII, Every person working in a food-handling area is to maintain a high degree of personal cleanliness and is to wear suitable, clean and, where necessary, protective clothing.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I, 3. An adequate number of flush lavatories are to be available and connected to an effective drainage system. Lavatories are not to open directly into rooms in which food is handled.</p> <p>4. An adequate number of washbasins is to be available, suitably located and designated for cleaning hands. Washbasins for cleaning hands are to be provided with hot and cold running water, materials for cleaning hands and for hygienic drying. Where necessary, the facilities for washing food are to be separate from the hand-washing facility.</p> <p><b>Regulation 853/2004</b>, Annex III, Section 1, Chapter 2 provides: Slaughterhouses must:</p>	<p><i>More detailed requirements on this subject (changing room) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.1:</b></i></p> <p>g) The specific clothes changing room(s) should be clean and ordered, not used as a refectory or a smoking room, and should facilitate a separation between normal clothing, clean work clothing and used work clothing.</p>



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p>made of smooth, water-proof, and easy-to-clean materials and shall be designed and constructed to be easy for cleaning and disinfection. Simple and clear hand washing method shall be marked at visible position near the hand washing facilities.</p> <p>5.1.5.6 In accordance with the cleanliness of food processing personnel, where necessary, facilities such as air shower and shower room can be arranged.</p>	<ul style="list-style-type: none"> <li>• They must have facilities for disinfecting tools with hot water supplied at not less than 82 °C, or an alternative system having an equivalent effect.</li> <li>• The equipment for washing hands used by the staff engaged in handling exposed meat must have taps designed to prevent the spread of contamination.</li> </ul>	
<p><b>5.1.6 Ventilation facilities should comply with the provisions of 5.1.6 in GB 14881-2013</b></p> <p>5.1.6.1 Appropriate natural ventilation or artificial ventilation measures shall be taken; where necessary, natural ventilation or mechanical facilities shall be made to effectively control temperature and humidity of production environment. For ventilation facilities, air shall not flow from operating areas with low requirements on cleanliness to those with high requirements on cleanliness.</p> <p>5.1.6.2 Air inlet position shall be arranged reasonably, and contamination source such as air inlet, air outlet and device for storing outdoor garbage shall be kept an appropriate distance and angle. Air inlet and outlet shall be provided with facilities such as mesh enclosure to prevent insect pest from intruding. Ventilation facilities shall be easy for cleaning, maintenance, or replacement.</p> <p>5.1.6.3 If filtration and purification treatment for air is needed in the production process, air filtration device shall be added and cleaned on regular basis.</p> <p>5.1.6.4 According to production requirements, where necessary, de-dusting facilities shall be installed.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I,</p> <p>5. There is to be suitable and sufficient means of natural or mechanical ventilation. Mechanical airflow from a contaminated area to a clean area is to be avoided. Ventilation systems are to be so constructed as to enable filters and other parts requiring cleaning or replacement to be readily accessible.</p> <p>6. Sanitary conveniences are to have adequate natural or mechanical ventilation</p>	<p><i>More detailed requirements on this subject (ventilation) are mentioned in the Guidance document</i> <b>Commission Notice 2016/C 278/01, Annex I, 2.8:</b></p> <p>d) Ventilation systems are kept clean, so that they do not become a source of contamination. For high risk/care areas requiring air control, the implementation of positive air pressure systems and appropriate air filtering systems should be considered.</p>
<p><b>5.1.7 Lighting facilities should comply with the provisions of 5.1.7 in GB 14881-2013</b></p> <p>5.1.7.1 Sufficient natural lighting or artificial lighting shall be provided in the plant. Lustre and luminance shall meet production and operation requirements. Light source shall make it possible that food takes on its actual colour.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I,</p> <p>7. Food premises are to have adequate natural and/or artificial lighting.</p>	<p><i>More detailed requirements on this subject (lighting) are mentioned in the Guidance document</i> <b>Commission Notice 2016/C 278/01, Annex I, 2.1:</b></p> <p>e) There should be sufficient lighting in all areas, with special attention</p>



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<p>5.1.7.2 If lighting facilities are necessary to be installed above the exposed food and materials, safe lighting facilities shall be adopted, or protection measures shall be taken.</p>		<p>paid to provision of suitable lighting to food preparation and inspection areas. Lighting should be easy to clean, with protective covers to prevent contamination of food in the event of lights breaking.</p>
<p><b>5.1.8 Storage facilities should comply with the provisions of 5.1.8 in GB 14881-2013</b></p> <p>5.1.8.1 Storage facilities corresponding to quantity, storage requirements of products shall be provided.</p> <p>5.1.8.2 Warehouse shall be made of nontoxic and solid materials; warehouse ground shall be flat and convenient for ventilation. Warehouse shall be designed to be easy for maintenance and cleaning to prevent insect pest from hiding and shall be equipped with device for preventing insect pest from intruding.</p> <p>5.1.8.3 Materials, semi-finished products, finished products and packaging materials shall be arranged with different storage sites or placed in different areas based on different properties and shall be marked explicitly to prevent cross contamination. Where necessary, warehouse shall be provided with control facilities of temperature and humidity.</p> <p>5.1.8.4 Storing articles shall be kept a proper distance from wall and ground to contribute to ventilation and articles handling.</p> <p>5.1.8.5 Detergent, disinfectant, pesticide, lubricant, or fuel shall be packaged safely and marked explicitly and shall be kept apart from materials, semi-finished products, finished products and packaging materials.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IX,</p> <p>2. Raw materials and all ingredients stored in a food business are to be kept in appropriate conditions designed to prevent harmful deterioration and protect them from contamination.</p> <p>3. At all stages of production, processing and distribution, food is to be protected against any contamination likely to render the food unfit for human consumption, injurious to health or contaminated in such a way that it would be unreasonable to expect it to be consumed in that state.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter X,</p> <p>1. Material used for wrapping and packaging are not to be a source of contamination.</p> <p>2. Wrapping materials are to be stored in such a manner that they are not exposed to a risk of contamination.</p> <p>3. Wrapping and packaging operations are to be carried out so as to avoid contamination of the products.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I</p> <p>10. Cleaning agents and disinfectants are not to be stored in areas where food is handled.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter II</p> <p>2. Adequate facilities are to be provided, where necessary, for the cleaning, disinfecting and storage of working utensils and equipment. These facilities are to be constructed of corrosion-resistant materials, be easy to clean and have an adequate supply of hot and cold water.</p>	
<p><b>5.1.9 Temperature control facilities should comply with the provisions of 5.1.9 in GB 14881-2013</b></p>	<p><b>Regulation (EC) No 852/2004</b>, Article 4</p> <p>3. Food business operators shall, as appropriate, adopt the following specific hygiene measures:</p>	



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<p>5.1.9.1 Appropriate heating, cooling and freezing facilities and facilities for monitoring temperature shall be equipped in accordance with the characteristics of food production.</p> <p>5.1.9.2 According to production requirements, facilities for controlling room temperature may be arranged.</p>	<p>(c) compliance with temperature control requirements for foodstuffs;</p> <p>(d) maintenance of the cold chain;</p> <p><b>Regulation (EC) No 852/2004</b>, 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.</p>	
<p><b>5.2 Equipment should comply with the provisions of 5.2.1.1 in GB 14881-2013</b></p> <p>5.2.1.1 General requirements Production equipment corresponding to productivity shall be provided and kept in order according to process flow to avoid cross contamination.</p> <p>5.2.1.2 Materials</p> <p>5.2.1.2.1 Equipment and instruments contacting with materials, semi-finished products and finished products shall be made of nontoxic, odourless, corrosion-resistant materials which are difficult for shedding and shall be easy for cleaning and maintenance.</p> <p>5.2.1.2.2 Surface of equipment and tools and instruments contacting with food shall be made of smooth, non-absorbent materials easy for cleaning, curing and disinfection, and will not react with food, detergent and disinfectant under normal production and shall be kept in perfect condition</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter V</p> <p>1. All articles, fittings and equipment with which food comes into contact are to:</p> <p>(a) be effectively cleaned and, where necessary, disinfected. Cleaning and disinfection are to take place at a frequency sufficient to avoid any risk of contamination;</p> <p>(b) be so constructed, be of such materials and be kept in such good order, repair, and condition as to minimise any risk of contamination;</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter II</p> <p>1. In rooms where food is prepared, treated, or processed (excluding dining areas and those premises specified in Chapter III, but including rooms contained in means of transport) the design and layout are to permit good food hygiene practices, including protection against contamination between and during operations. In particular:</p> <p>(f) surfaces (including surfaces of equipment) in areas where foods are handled and in particular those in contact with food are to be maintained in a sound condition and be easy to clean and, where necessary, to disinfect. This will require the use of smooth, washable corrosion-resistant and non-toxic materials...</p> <p>2. Adequate facilities are to be provided, where necessary, for the cleaning, disinfecting and storage of working utensils and equipment. These facilities are to be constructed of corrosion-resistant materials, be easy to clean and have an adequate supply of hot and cold water.</p>	



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<p><b>5.2.1.3 Design shall comply with the provisions of 5.2.1.3 in GB 14881-2013</b></p> <p>5.2.1.3.1 All production equipment shall make it possible in design and structure to prevent parts, metal chip, lubricating oil or other contamination factors being mixed into food and shall be easy for cleaning, disinfection, inspection, and maintenance.</p> <p>5.2.1.3.2 The design of the appliance shall take into account the safety of eggs and egg products and the risk of contamination and facilitate thorough cleaning and disinfection.</p> <p>5.2.1.3.3 Machines or containers used for the production of liquid eggs shall be designed to remove foreign matter such as eggshells.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I</p> <p>2. The layout, design, construction, siting, and size of food premises are to:</p> <p>(a) permit adequate maintenance, cleaning and/or disinfection, avoid or minimise air-borne contamination, and provide adequate working space to allow for the hygienic performance of all operations;</p> <p>(b) be such as to protect against the accumulation of dirt, contact with toxic materials, the shedding of particles into food and the formation of condensation or undesirable mould on surfaces;</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter V:</p> <p>1. All articles, fittings and equipment with which food comes into contact are to:</p> <p>(b) be so constructed, be of such materials and be kept in such good order, repair, and condition as to minimise any risk of contamination;</p>	<p><i>More detailed requirements on this subject (equipment) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.1:</b></i></p> <p>k) Attention should be paid to the different possibilities whereby the use of equipment can result in (cross-) contamination of food:</p> <p>i. Prevention of contamination of the equipment by the environment e.g. condensation dripping from ceilings;</p> <p>ii. Prevention of contamination within the food handling equipment e.g. accumulation of food residues in slicing devices;</p> <p>iii. Prevention of contamination by raw materials: separate equipment (or cleaning and disinfection between use) for raw products and cooked products (chopping boards, knives, dishes, ...).</p> <p><b>and Annex I, 2.10:</b></p> <p>d) Storage conditions at the establishment itself should take into account any instructions provided by the supplier, 'first in, first out' or 'first expire, first out' principles, accessibility for inspection from all sides (e.g. not placed directly on the ground, against walls, ...).</p>



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<p><b>5.2.2 Monitoring equipment shall comply with the provisions of 5.2.2 in GB 14881-2013</b></p> <p>The equipment used for monitoring, controlling, and recording such as pressure gauge, thermometer and recorder shall be calibrated and maintained on regular basis.</p>	<p><b>Regulation (EC) No 852/2004</b>, 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.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter V 2. Where necessary, equipment is to be fitted with any appropriate control device to guarantee fulfilment of this Regulation's objectives.</p>	<p><i>More detailed requirements on this subject (calibration) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.4 Technical maintenance and calibration:</b></i></p> <p>c) Calibration of monitoring devices (e.g. weighing scales, thermometers, flow meters) is of importance in controlling food safety and hygiene.</p>
<p><b>5.2.3 Equipment maintenance and repair should comply with the provisions of 5.2.3 in GB 14881-2013</b></p> <p>Equipment maintenance and repair system shall be established to enhance the routine maintenance and curing of equipment. The equipment shall be inspected on regular basis and the result shall be recorded timely.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter V, Equipment requirements:</p> <p>1. All articles, fittings and equipment with which food comes into contact are to:</p> <p>...(b) be so constructed, be of such materials and be kept in such good order, repair, and condition as to minimise any risk of contamination;</p>	<p>Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2 Examples of PRPs, 2.4 Technical maintenance and calibration:</b></p> <p>a) The maintenance plan should be considered with a technical specialist. The plan should include 'emergency' procedures when equipment is defective and instructions for preventive replacement of seals, gaskets, ...</p> <p>b) Attention should be paid to hygiene during maintenance operations and to proper operation of equipment e.g. avoidance of overloading or exceeding the equipment's capacity, leading to cracks, (too) hot food in cooling systems preventing a quick cooling, too low (re)heating capacity for the amount of food put in warming tables of food service establishments, ...</p>



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<p><b>Hygiene Management</b></p> <p><b>6.1 Hygiene management system shall comply with the provisions of 6.1 in GB 14881-2013</b></p> <p>6.1.1 Hygiene management system for food processing personnel, food production and corresponding assessment standard shall be established. Post responsibilities shall be determined to carry out post responsibility system.</p> <p>6.1.2 Monitoring system for key control link significant to ensure food safety shall be issued according to the characteristics of food and hygienic requirements in the production and storage process to be implemented well and inspected periodically. If any problem is found, it shall be corrected at once.</p> <p>6.1.3 Hygienic monitoring system for production environment, food processing personnel, equipment and facilities shall be established to determine the range, object, and frequency of internal monitoring. The monitoring results shall be recorded and filed, and executive condition and effect shall be inspected periodically so that any problem can be corrected at once if it's found.</p> <p>6.1.4 Cleaning and disinfection system and management system for cleaning and disinfection instruments shall be built up. Equipment and tools and instruments before and after cleaning and disinfection shall be kept apart and safely kept to avoid cross-contamination.</p>	<p><b>Regulation (EC) No 852/2004, Article 4</b></p> <p>1. 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 of Annex I</p> <p>2. Food business operators carrying out any stage of production, processing, and distribution of food after those stages to which paragraph 1 applies shall comply with the general hygiene requirements laid down in Annex II...</p> <p>3. Food business operators shall, as appropriate, adopt the following specific hygiene measures:</p> <p>(a) compliance with microbiological criteria for foodstuffs;</p> <p>(b) procedures necessary to meet targets set to achieve the objectives of this Regulation;</p> <p>(c) compliance with temperature control requirements for foodstuffs;</p> <p>(d) maintenance of the cold chain;</p> <p>(e) sampling and analysis.</p> <p>6. Food business operators may use the guides provided for in Articles 7, 8 and 9 as an aid to compliance with their obligations under this Regulation.</p> <p><b>Regulation (EC) No 852/2004, Article 5</b></p> <p>1. Food business operators shall put in place, implement, and maintain a permanent procedure or procedures based on the HACCP principles.</p> <p>2. The HACCP principles referred to in paragraph 1 consist of the following:</p> <p>(a) identifying any hazards that must be prevented, eliminated, or reduced to acceptable levels;</p> <p>(b) identifying the critical control points at the step or steps at which control is essential to prevent or eliminate a hazard or to reduce it to acceptable levels;</p> <p>(c) establishing critical limits at critical control points which separate acceptability from unacceptability for the prevention, elimination, or reduction of identified hazards;</p>	<p><i>Many guides to good practice have been developed both as Community guides as well as National guides by each Member State. These have been developed for all sectors (for example for monitoring of bivalve mollusc production and relaying areas, for self-checking in the fish sector, for retail, for wholesale markets, etc.)</i></p> <p><i>In these guides requirements are explained in detail to enable application in that sector using simplified language and examples.</i></p>



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	<p>(d) establishing and implementing effective monitoring procedures at critical control points;</p> <p>(e) establishing corrective actions when monitoring indicates that a critical control point is not under control; 4</p> <p>(f) establishing procedures, which shall be carried out regularly, to verify that the measures outlined in subparagraphs (a) to (e) are working effectively; and</p> <p>(g) establishing documents and records commensurate with the nature and size of the food business to demonstrate the effective application of the measures outlined in subparagraphs (a) to (f).</p> <p>When any modification is made in the product, process, or any step, food business operators shall review the procedure and make the necessary changes to it.</p> <p><b>See also EU requirements equivalent to points 5.2.1.3, 5.2.2, 5.2.3 and in addition:</b></p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter II</p> <p>2. Adequate facilities are to be provided, where necessary, for the cleaning, disinfecting and storage of working utensils and equipment. These facilities are to be constructed of corrosion-resistant materials, be easy to clean and have an adequate supply of hot and cold water.</p>	
<p><b>6.2 Hygiene management of plant and facilities shall comply with the provisions of 6.2 in GB 14881-2013</b></p> <p>6.2.1 Facilities in the plant shall be kept clean and repaired or renewed timely in case of any problem. If there is any damage of plant ground, roof, ceiling, and wall, it shall be repaired timely.</p> <p>6.2.2 Equipment and tools and instruments for production, packaging and storage, pipeline for production, and exposed food contact surface shall be cleaned and disinfected on regular basis.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I</p> <p>1. Food premises are to be kept clean and maintained in good repair and condition.</p> <p>2. The layout, design, construction, siting, and size of food premises are to:</p> <p>(a) permit adequate maintenance, cleaning and/or disinfection, avoid or minimise air-borne contamination, and provide adequate working space to allow for the hygienic performance of all operations;</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter V</p> <p>1. All articles, fittings and equipment with which food comes into contact are to:</p>	



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	<p>(a) be effectively cleaned and, where necessary, disinfected. Cleaning and disinfection are to take place at a frequency sufficient to avoid any risk of contamination;</p> <p>(b) be so constructed, be of such materials and be kept in such good order, repair, and condition as to minimise any risk of contamination;</p> <p><b>Regulation 853/2004 Chapter II</b> EGG PRODUCTS I. REQUIREMENTS FOR ESTABLISHMENTS Food business operators must ensure that establishments for the manufacture of egg products are constructed, laid out and equipped so as to ensure separation of the following operations:</p> <ol style="list-style-type: none"> <li>1. washing, drying, and disinfecting dirty eggs, where carried out;</li> <li>2. breaking eggs, collecting their contents, and removing parts of shells and membranes;</li> </ol> <p>and</p> <ol style="list-style-type: none"> <li>3. operations other than those referred to in points 1 and 2.</li> </ol>	
<p><b>6.3 Personnel health management and hygienic requirement</b></p> <p><b>6.3.1 Health management of personnel</b> 6.3.1.1 The requirements of relevant national laws and regulations shall be complied with. 6.3.1.2 Any personnel with infected wounds, pain or infectious diseases shall be reported immediately to the management and personnel who are unfit to work in the processing section shall cease work immediately.</p> <p><b>6.3.2 Personnel hygiene requirements</b> 6.3.2.1 The provisions of 6.3.2 in GB 14881-2013 shall be complied with.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter VIII</p> <ol style="list-style-type: none"> <li>1. Every person working in a food-handling area is to maintain a high degree of personal cleanliness and is to wear suitable, clean and, where necessary, protective clothing.</li> <li>2. No person suffering from or being a carrier of a disease likely to be transmitted through food or afflicted, for example, with infected wounds, skin infections, sores or diarrhoea is to be permitted to handle food or enter any food-handling area in any capacity if there is any likelihood of direct or indirect contamination.</li> </ol> <p>Any person so affected and employed in a food business and who is likely to come into contact with food is to report immediately the illness or symptoms, and if possible their causes, to the food business operator.</p>	<p><i>More detailed requirements on this subject (personnel, health status) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.9:</b></i></p> <p>a) Personnel should be aware of hazards from gastro-intestinal infections, hepatitis, and wounds with appropriate exclusion from food handling or suitable protection; relevant health problems should be reported to the manager. Special consideration should be given to temporary workers who might be less familiar with potential hazards.</p>



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<p>6.3.2.2 Gloves used for processing products shall be clean, hygienic and in good condition and the material of the gloves shall be non-permeable.</p> <p>6.3.2 Hygiene requirements for food processing personnel</p> <p>6.3.2.1 The personnel shall handle personal hygiene before entering food production site to avoid food contamination.</p> <p>6.3.2.2 The personnel shall wear clean work clothes, wash hand, and disinfect oneself as needed when entering the operating area. Hair shall be hidden in work cap or restraint by hairnet.</p> <p>6.3.2.3 The personnel shall not wear jewellery or watch, and shall not make up, dye fingernails and spray perfume. They shall not carry or store personal articles which are irrelevant to food production.</p> <p>6.3.2.4 After going to the rest room, contacting articles which may contaminate food or engaging in other activities irrelevant to food production, the personnel shall wash hand and disinfect themselves before being engaged in activities related to food production contacting food, tools and instruments or food equipment again.</p>		<p><i>More detailed requirements on this subject (personnel, hygiene) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.9:</b></i></p> <p>c) Hands should be washed (and disinfected) regularly, as a minimum before starting to work, after using the lavatory, after breaks, after rubbish disposal, after coughing or sneezing, after handling of raw materials, ...</p> <p>d) Hair covers (and beard snoods) should be considered and appropriate clothing with high degree of cleanliness, minimum of pockets, absence of jewellery and watches.</p> <p>e) Eating, drinking and/or smoking rooms should be separated and clean.</p> <p><i>More detailed requirements on this subject (visitors) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.9:</b></i></p> <p>g) The number of visitors should be minimized. Visitors should wear appropriate protective clothing, provided by the Food Business Operator.</p>



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<p><b>6.3.3 Visitors should comply with the provisions of 6.3.3 in GB 14881-2013</b></p> <p>Those who are not food processing personnel shall not enter food production site. If they enter the food production site under special circumstances, they shall observe the same hygienic requirements as food processing personnel.</p>		
<p><b>6.4 Pest control shall comply with the provisions of 6.4 in GB 14881-2013</b></p> <p>6.4.1 The building shall be kept in perfect condition and tidy to prevent insect attack from intruding and breeding.</p> <p>6.4.2 Insect pest control measures shall be prepared and carried out for regular inspection. Effective measures such as yarn curtain, gauze, rat guard, fly prevention lamp or wind screen shall be taken in production workshop and warehouse to prevent rodent or insects from intruding. If trail of insects or rodent is found, its source shall be traced to eradicate hidden danger.</p> <p>6.4.3 Plan drawing for insect pest control shall be exactly drawn to mark the positions of mousetrap, glue board, fly-killing lamp, outdoor bait and killing device of biochemical pheromone. 6.4.4 Pest control shall be carried out on regular basis in the plant.</p> <p>6.4.5 During the treatment by physical, chemical, or biological agent, food safety and the proper food quality shall not be affected, and food contact surface, equipment, tools and instruments and packaging material shall not be contaminated. Pest control shall be recorded correspondingly.</p> <p>6.4.6 Before using various kinds of pesticides or other drugs, preventive measures shall be taken to avoid contamination on persons, food, equipment, and tools. In case of contamination carelessly, contaminated equipment or tools shall be cleaned thoroughly in time to eradicate contamination.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter I General requirements for food premises:</p> <ol style="list-style-type: none"> <li>1. Food premises are to be kept clean and maintained in good repair and condition.</li> <li>2. The layout, design, construction, siting, and size of food premises are to: <ul style="list-style-type: none"> <li>(c) permit good food hygiene practices, including protection against contamination and, in particular, pest control;</li> </ul> </li> </ol> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IX 4. Adequate procedures are to be in place to control pests. Adequate procedures are also to be in place to prevent domestic animals from having access to places where food is prepared, handled, or stored (or, where the competent authority so permits in special cases, to prevent such access from resulting in contamination).</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IX 3. At all stages of production, processing and distribution, food is to be protected against any contamination likely to render the food unfit for human consumption, injurious to health or contaminated in such a way that it would be unreasonable to expect it to be consumed in that state.</p> <p>2. Raw materials and all ingredients stored in a food business are to be kept in appropriate conditions designed to prevent harmful deterioration and protect them from contamination.</p>	<p><i>More detailed requirements on this subject (pest control) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.3 Pest control: focus on prevention:</b></i></p> <ol style="list-style-type: none"> <li>a) External walls should be free of cracks or chinks, surroundings neat and clean and areas for cleaning accessible.</li> <li>b) Insect screen should be placed at windows.</li> <li>c) Doors should be kept closed except when loading and or unloading.</li> <li>d) Unused equipment and rooms should be clean.</li> <li>e) The presence of an indoor pool of water should be immediately addressed.</li> </ol>



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<p><b>6.5 Waste disposal shall comply with the provisions of 6.5 in GB 14881-2013</b></p> <p>6.5.2 Waste such as empty eggshells and unacceptable eggs shall be removed regularly by means of suitable containers, conveyors, or sinks, at least at the end of each working day.</p> <p>At least once a day at the end of the working day and at least once a day the waste should be removed from the plant.</p> <p>6.5.3 Containers and devices used for waste storage should be cleaned immediately after they are emptied and the area where the waste containers are placed should also be cleaned regularly, at least once a day.</p> <p><b>14881-2013</b></p> <p>6.5.1 System for waste storage and elimination shall be published; for waste with special requirements, its disposal shall meet the relevant requirements. Waste shall be eliminated periodically; corruptible waste shall be eliminated as soon as possible; where necessary, waste shall be eliminated in time.</p> <p>6.5.2 Waste location outside the workshop shall be kept from food processing site to prevent contamination; smelly or harmful, toxic gas shall be prevented from escaping; insect pest shall be prevented from breeding.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter VI</p> <p>1. Food waste, non-edible by-products and other refuse are to be removed from rooms where food is present as quickly as possible, so as to avoid their accumulation.</p> <p>2. Food waste, non-edible by-products and other refuse are to be deposited in closable containers, unless food business operators can demonstrate to the competent authority that other types of containers or evacuation systems used are appropriate. These containers are to be of an appropriate construction, kept in sound condition, be easy to clean and, where necessary, to disinfect.</p> <p>3. Adequate provision is to be made for the storage and disposal of food waste, non-edible by-products, and other refuse. Refuse stores are to be designed and managed in such a way as to enable them to be kept clean and, where necessary, free of animals and pests.</p> <p>4. All waste is to be eliminated in a hygienic and environmentally friendly way in accordance with Community legislation applicable to that effect and is not to constitute a direct or indirect source of contamination.</p>	
<p><b>6.6 Workwear management should comply with the provisions of 6.6 in GB 14881-2013</b></p> <p>6.6.1 The personnel shall wear work clothes when entering the operating areas.</p> <p>6.6.2 Specialized clothes such as coats, pants, shoes, caps, and hairnet shall be equipped in accordance with the food characteristics and the requirements of production process; where necessary, mask, apron, sleeve, or glove may be provided.</p> <p>6.6.3 Cleaning system for work clothes shall be prepared, where necessary, work clothes shall be replaced timely. During the process of food production, work clothes shall be kept clean and in perfect condition.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter VIII</p> <p>1. Every person working in a food-handling area is to maintain a high degree of personal cleanliness and is to wear suitable, clean and, where necessary, protective clothing.</p>	<p><i>More detailed requirements on this subject (work clothes management) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.9:</b></i></p> <p>d) Hair covers (and beard snoods) should be considered and appropriate clothing with high degree of cleanliness, minimum of pockets, absence of jewellery and watches.</p>



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<p>6.6.4 Work clothes shall be designed and made to meet to the requirements of different operating areas to lower the risk of cross contamination. Position of work clothes pocket and connection fastening shall be reasonably selected to reduce the contamination risk brought by content or fastening dropping.</p>		
<p><b>7 Food ingredients, packaging materials and Food Additives</b>  <b>7.1 General requirements should comply with the provisions of 7.1 in GB 14881-2013</b>  Purchasing, acceptance, transportation and storage management system for food raw materials, food additives and food related products shall be established to ensure that food raw materials, food additives and food related products meet relevant national requirements. Any substance which harm to human health and life safety may do shall not be added to foods.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IX  A food business operator is not to accept raw materials or ingredients, other than live animals, or any other material used in processing products, if they are known to be, or might reasonably be expected to be, contaminated with parasites, pathogenic microorganisms or toxic, decomposed or foreign substances to such an extent that, even after the food business operator had hygienically applied normal sorting and/or preparatory or processing procedures, the final product would be unfit for human consumption.</p>	
<p><b>7.2 Food ingredients and packaging materials</b>  <b>7.2.1 Procurement and acceptance requirements</b>  7.2.1.1 The purchase and acceptance of food ingredients and packaging materials shall comply with the relevant provisions of Chapter 7 in GB14881-2013.  7.2.1.2 The enterprise shall establish a supplier management system and stipulate the procedures for the selection, audit, and evaluation of suppliers.  7.2.1.3 The processes and safety measures adopted by suppliers should be evaluated and, if necessary, suppliers should be subject to on-site evaluation or monitoring of processes, while ensuring that raw materials are sourced from non-infected areas.  7.2.1.4 The company should check the documentation of product conformity and raw materials and packaging materials should be accepted before use.  7.2.1.5 Acceptance of bulk agricultural products shall be recorded at least in terms of the name, quantity, contact details of the supplier, date of arrival, testing indicators and other relevant contents.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IX  2. Raw materials and all ingredients stored in a food business are to be kept in appropriate conditions designed to prevent harmful deterioration and protect them from contamination.  3. At all stages of production, processing and distribution, food is to be protected against any contamination likely to render the food unfit for human consumption, injurious to health or contaminated in such a way that it would be unreasonable to expect it to be consumed in that state.  4. Adequate procedures are to be in place to control pests. Adequate procedures are also to be in place to prevent domestic animals from having access to places where food is prepared, handled, or stored (or, where the competent authority so permits in special cases, to prevent such access from resulting in contamination).</p>	



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<p>7.2.1.6 It shall ensure that the raw materials purchased comply with the provisions of relevant national laws, regulations, and standards, and shall be tested regularly, at least once a year.</p> <p>7.2.1.7 The producer shall strictly control the proportion of broken eggs during transport, strictly follow the acceptance requirements of the enterprise for inspection and unqualified raw materials shall be rejected or isolated for separate treatment.</p>		
<p><b>7.2.2 Transport and storage requirements</b></p> <p>7.2.2.1 Tools and containers for transporting raw materials and packaging materials shall be kept clean, well maintained, and provide the necessary protection to avoid contamination of raw materials and packaging materials.</p> <p>7.2.2.2 Suitable control measures should be taken during transport to ensure the integrity of the raw material packaging and the integrity of the raw egg, and to keep transport times within reasonable limits.</p> <p>7.2.2.3 During storage different raw materials and packaging materials shall be stored in zones according to their characteristics and signs shall be established indicating the product name, quantity, source, and other relevant information.</p> <p>7.2.2.4 The storage of raw materials and packaging materials should be managed by a person, stored under suitable conditions of temperature and humidity, and cleaned at least once a month of raw materials and packaging materials that have deteriorated or exceeded their shelf life.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IV</p> <p>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.</p> <p>3. Where conveyances and/or containers are used for transporting anything in addition to foodstuffs or for transporting different foodstuffs at the same time, there is, where necessary, to be effective separation of products.</p>	<p><i>More detailed requirements on this subject (first in, first out) are mentioned in the Guidance document</i></p> <p><b>Commission Notice 2016/C 278/01, Annex I, 2.10.:</b></p> <p>d) Storage conditions at the establishment itself should take into account any instructions provided by the supplier, 'first in, first out' or 'first expire, first out' principles, accessibility for inspection from all sides (e.g. not placed directly on the ground, against walls, ...).</p>
<p><b>7.3 Food additives should comply with the provisions of 7.3 in GB 14881-2013</b></p> <p>7.3.1 Licenses of the suppliers and qualified certificates of products shall be inspected where food additives are purchased. Food additives can only be used after being approved.</p> <p>7.3.2 The transportation tools and containers of food additives shall be kept clean and in good condition and shall be provided with necessary protective measures to avoid contamination on food additives.</p>	<p><b>Regulation (EC) No 1333/2008, Article 4</b></p> <p>1. Only food additives included in the Community list in Annex II may be placed on the market as such and used in foods under the conditions of use specified therein.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IV</p> <p>5. Where conveyances and/or containers have been used for transporting anything other than foodstuffs or for transporting different loads to avoid the risk of contamination.</p>	<p><b>Regulation (EC) No 1333/2008 on food additives</b> provides general principles of safety and application for all food additives and sets out harmonised rules on food additives: definitions, conditions of use, labelling, and procedures.</p>



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<p>7.3.3 Storage of food additives shall be managed by specific personnel who are responsible for periodical inspection on the quality and hygienic condition and timely cleaning for the bad food materials or those exceeding quality guarantee period. The distribution order of warehouse shall comply with the principle of "first in first out"; where necessary, it shall be determined according to the characteristics of food additives.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IX 2. Raw materials and all ingredients stored in a food business are to be kept in appropriate conditions designed to prevent harmful deterioration and protect them from contamination.</p>	<p><i>In addition, Regulation (EU) No 1130/2011 establishes a Union list of additives approved for use in food additives, food enzymes, food flavourings and nutrients.</i></p> <p><i>More detailed requirements on this subject (first in, first out) are mentioned in the Guidance document <b>Commission Notice 2016/C 278/01, Annex I, 2.10.:</b></i></p> <p>d) Storage conditions at the establishment itself should take into account any instructions provided by the supplier, 'first in, first out' or 'first expire, first out' principles, accessibility for inspection from all sides (e.g. not placed directly on the ground, against walls, ...).</p>
<p><b>8 Food Safety Control in Production Process</b> <b>8.1 Product contamination risk control shall comply with the provisions on 8.1 in GB 14881-2013</b> 8.1.1 Hazard analysis method shall be used to affirm the key link of food safety during production process, and control measures for the key link of food safety shall be taken. In the key link, relevant documents such as list of ingredients (feeding) and post operating procedures shall be provided to implement control measures. 8.1.2 Hazard Analysis and Critical Control Point system is encouraged to be adopted for the food safety control during the process of production.</p>	<p><b>Regulation (EC) No 852/2004, Article 5</b> 1. Food business operators shall put in place, implement, and maintain a permanent procedure or procedures based on the HACCP principles.</p>	<p><i>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). However, overall, the</i></p>



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		<p><i>objective and aim of the provisions are the same.</i></p> <p><i>A detailed assessment of National Standard GB 27341-2009 in comparison with EU legislation is provided below.</i></p>
<p><b>8.2 Control of biological contamination shall comply with the provisions of 8.2 in GB 14881-2013</b></p> <p>8.2.2 Appendix A may be used to develop a monitoring plan for Salmonella in the processing of eggs and egg products in conjunction with the production process and product characteristics, and to implement effective monitoring, and appropriate corrective measures shall be taken when the monitoring results indicate deviations.</p> <p><b>8.3 Control of chemical contamination shall comply with the provisions of 8.3 in GB14881-2013.</b></p> <p><b>8.4 Control of physical contamination shall comply with the provisions of 8.4 in GB 14881-2013.</b></p>	<p><b>Regulation (EC) No 852/2004, Articles 4 and 5.</b></p> <p><b>Guidance document (Commission Notice 2016/C 278/01) Annex I and Annex II.</b></p>	<p>A detailed assessment of the requirements for the implementation of HACCP in EU legislation is provided below.</p>
<p><b>8.5 Packaging shall comply with the provisions of 8.5 in GB 14881-2013.</b></p> <p>8.5.1 The food packaging shall be able to protect the food safety and quality to the maximum extent under normal storage, transportation, and marketing conditions.</p> <p>8.5.2 Identification shall be checked to avoid misuse where packaging materials are used. The use condition of packaging materials shall be recorded faithfully.</p>	<p><b>Regulation (EC) No 852/2004, Annex II, Chapter X</b></p> <ol style="list-style-type: none"> <li>1. Material used for wrapping and packaging are not to be a source of contamination.</li> <li>2. Wrapping materials are to be stored in such a manner that they are not exposed to a risk of contamination.</li> <li>3. Wrapping and packaging operations are to be carried out so as to avoid contamination of the products.</li> <li>4. Wrapping and packaging material re-used for foodstuffs is to be easy to clean and, where necessary, to disinfect.</li> </ol>	



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<p><b>8.6 Specific Handling steps</b></p> <p><b>8.6.1 General requirements</b> Each processing process in the production process of eggs and egg products should comply with the requirements of the corresponding process-specific processing steps</p> <p><b>8.6.2 Sorting</b> Fresh eggs should be inspected before processing to select out defective eggs such as broken, damaged, or cracked shells.</p> <p><b>8.6.3 Cleaning</b> Fresh eggs should be cleaned as required, qualified suppliers of cleaning agents and disinfectants should be selected, safety risks of cleaning agents and disinfectants should be controlled, and cleaning and disinfection procedures should be developed.</p> <p><b>8.6.4 Pasteurisation</b></p> <p>8.6.4.1 Liquid eggs shall be pasteurised using a proven pasteurisation formula, heated at a temperature sufficient to kill Salmonella, or using another proven treatment that gives the same results. Pasteurisation of different liquid eggs (e.g. whole egg, egg white, yolk) requires different time-temperature combinations and microbiological tests should be carried out at least every 3 months on the product treated in the pasteuriser to verify the effectiveness of the pasteurisation. Microbiological tests should also be carried out on the products processed by the steriliser to verify the sterilisation effect once changes in raw materials, machinery and equipment, environmental conditions, etc. have occurred.</p> <p>8.6.4.2 At the end of pasteurisation, all liquid egg products should be immediately cooled to below 7°C for temporary storage if the next step in processing is not immediately available.</p> <p>8.6.4.3 At each stage after pasteurisation, controls should be in place to protect all types of products from contamination.</p> <p><b>8.6.5 Metal Detection</b></p>	<p><b>Regulation (EC) No 853/2004</b>, Annex III, Section X EGGS</p> <ol style="list-style-type: none"> <li>At the producer's premises, and until sale to the consumer, eggs must be kept clean, dry, free of extraneous odour, effectively protected from shocks and out of direct sunshine.</li> <li>Eggs must be stored and transported until sale to the final consumer at a temperature, preferably constant, that is best suited to assure optimal conservation of their hygiene properties, unless the competent authority imposes national temperature requirements for egg storage facilities and for vehicles transporting eggs between such storage facilities.</li> <li>Eggs must be delivered to the consumer within a maximum time limit of 28 days of laying.</li> <li>For eggs produced by hens of the species <i>Gallus gallus</i>, the 'date of minimum durability' as defined in Article 2(2), point (r), of Regulation (EU) No 1169/2011 shall be fixed at not more than 28 days after the laying. Where the period of laying is indicated, this date shall be determined from the first day of that period.</li> </ol> <p><b>Regulation (EC) No 853/2004</b>, Annex III, Section X Chapter II</p> <p><b>Raw materials for the manufacture of egg products</b> Food business operators must ensure that raw materials used to manufacture egg products comply with the following requirements.</p> <ol style="list-style-type: none"> <li>The shells of eggs used in the manufacture of egg products must be fully developed and contain no breaks. However, cracked eggs may be used for the manufacture of liquid egg or egg products if the establishment of production or a packing centre delivers them directly to an establishment approved for the manufacture of liquid egg or a processing establishment, where they must be broken as soon as possible.</li> <li>Liquid egg obtained in an establishment approved for that purpose may be used as raw material. Liquid egg must be</li> </ol>	



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<p>Metal detection devices should be configured and adjusted to optimum conditions to minimise foreign body contamination during product processing. Metal detection devices should be verified prior to each use to ensure they are operating effectively.</p> <p><b>8.6.6 Control of Key factors in the fresh egg processing process</b></p> <p><b>8.6.6.1 Film application</b> A qualified supplier should be selected for the coating of the fresh egg surface, and the coating agent used should meet the requirements of the relevant standards, while controlling the appropriate amount of coating. Ensure that microorganisms do not multiply and that fresh eggs are not contaminated by the coating agent.</p> <p><b>8.6.6.2 Inspection</b> Controls should be in place to ensure that each egg is inspected to monitor for debris, blood, etc. and to pick out unacceptable eggs.</p> <p><b>8.6.7 Control of key factors in the processing of liquid egg products</b></p> <p><b>8.6.7.1 Egg beating</b> Eggs should be broken manually or mechanically, one by one. It is not advisable to use the extrusion method to break eggs to avoid microbiological contamination and foreign matter contamination.</p> <p><b>8.6.7.2 Filtration and collection</b> Liquid eggs should be filtered using appropriate filters, centrifuges, or other suitable equipment. A suitable mesh size should be selected, and controls should be put in place to ensure that the strainers are in good condition and clean. The strainers should be inspected and cleaned at least once per shift and replaced if necessary. Cleaning should be carried out in strict accordance with the relevant requirements and the effect should be verified after cleaning to ensure that subsequent products are not contaminated.</p> <p><b>8.6.7.3 Temporary storage</b></p>	<p>obtained in accordance with the requirements of points 1, 2, 3, 4 and 7 of Part III.</p> <p><b>SPECIAL HYGIENE REQUIREMENTS FOR THE MANUFACTURE OF EGG PRODUCTS</b></p> <p>Food business operators must ensure that all operations are carried out in such a way as to avoid any contamination during production, handling, and storage of egg products, in particular by ensuring compliance with the following requirements.</p> <ol style="list-style-type: none"> <li>1. Eggs must not be broken unless they are clean and dry.</li> <li>2. Eggs must be broken in a manner that minimises contamination, in particular by ensuring adequate separation from other operations. Cracked eggs must be processed as soon as possible.</li> <li>3. Eggs other than those of hens, turkeys or guinea fowl must be handled and processed separately. All equipment must be cleaned and disinfected before processing of hens', turkeys' and guinea fowls' eggs is resumed.</li> <li>4. Egg contents may not be obtained by the centrifuging or crushing of eggs, nor may centrifuging be used to obtain the remains of egg whites from empty shells for human consumption.</li> <li>5. After breaking, each particle of the liquid egg must undergo processing as quickly as possible to eliminate microbiological hazards or to reduce them to an acceptable level. A batch that has been insufficiently processed may immediately undergo processing again in the same establishment if this processing renders it fit for human consumption. Where a batch is found to be unfit for human consumption, it must be denatured to ensure that it is not used for human consumption.</li> <li>6. Processing is not required for egg white intended for the manufacture of dried or crystallised albumin destined subsequently to undergo heat treatment.</li> </ol>	



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<p>Temporary storage of egg liquor should be at a temperature of no more than 7°C and the next step in the process should be carried out within 24h to ensure that microorganisms do not grow and multiply.</p> <p><b>8.6.8 Control of key factors in the processing of dried egg products</b></p> <p><b>8.6.8.1 Powder spraying</b> It should be ensured that the moisture content of the egg powder is within the appropriate range. The temperature of the air inlet and outlet should be controlled during powdering, the moisture content of each batch of egg powder should be tested and substandard products should be disposed of properly.</p> <p><b>8.6.8.2 Egg powder hot room treatment</b> The temperature of the heat treatment room and the centre of the egg powder should be monitored, and the thermometer should be calibrated regularly, at least once a year.</p> <p><b>8.6.9 Control of key factors in the processing of reconstituted eggs</b></p> <p><b>8.6.9.1 Batching</b> The various food ingredients should be weighed on calibrated scales and double checked by a person. The amount of food additives used in the ingredients should be monitored and the relevant provisions of GB 2760 should be strictly followed to ensure that they are within the appropriate range.</p> <p><b>8.6.9.2 Fluid management</b> For repeatedly used liquids, the relevant indicators should be tested before each use to ensure that they meet the requirements of the liquid's indicators.</p> <p><b>8.6.9.3 Dehulling</b></p>	<p>7. If processing is not carried out immediately after breaking, liquid egg must be stored either frozen or at a temperature of not more than 4 °C. The storage period before processing at 4 °C must not exceed 48 hours. However, these requirements do not apply to products to be de-sugared if de-sugaring process is performed as soon as possible.</p> <p>8. Products that have not been stabilised so as to be kept at room temperature must be cooled to not more than 4 °C. Products for freezing must be frozen immediately after processing.</p> <p><b>V. LABELLING AND IDENTIFICATION MARKING</b></p> <p>1. In addition to the general requirements for identification marking laid down in Annex II, Section I, consignments of egg products, destined not for retail but for use as an ingredient in the manufacture of another product, must have a label giving the temperature at which the egg products must be maintained and the period during which conservation may thus be assured.</p> <p>2. In the case of liquid egg, the label referred to in point 1 must also bear the words: 'non-pasteurised liquid egg — to be treated at place of destination' and indicate the date and hour of breaking.</p>	



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<p>After shelling by the shelling machine, suitable measures (e.g. manual shelling) should be taken to remove eggs that are not cleanly shelled to ensure that there are no shells on the surface of the white boiled eggs. If the eggs cannot be processed immediately after shelling, they should be stored below 10°C and processed for the next step within 12h.</p> <p><b>8.6.9.4 Pickling</b>                      Preserved leather and salted eggs should be preserved according to the prescribed operation and shell breaking checks should be carried out during the preserving process. The preserving temperature and time should be controlled, and the thermometer and timer should be calibrated regularly, the calibration frequency should be at least once a year.</p> <p><b>8.6.9.5 Brining</b>                      Brining should be carried out in accordance with the specified operations, brining temperature and time should be monitored and thermometers and timers should be calibrated periodically, and the frequency of calibration should be at least once a year.</p> <p><b>8.6.9.6 Vacuum flexible packaging</b>                      Packaging materials should be sterilised in an appropriate manner prior to product packaging, the parameters of the vacuum packaging machine should be monitored during packaging to ensure that they do not deviate from the limits, the vacuum packaging machine should be cleaned at a frequency of once per shift and the maintenance of the vacuum packaging machine should be enhanced. The vacuum packaging seal should be monitored to ensure that it is flat and free from air leakage.</p> <p><b>8.6.9.7 High temperature sterilisation</b>                      Vacuum-packed products should be sterilised in accordance with the specified operating procedures, and key parameters such as temperature, pressure and sterilisation time of the sterilisation equipment should be monitored.</p>		



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<p><b>9 Inspection shall comply with the relevant provisions of Chapter 9 of GB14881-2013</b></p> <p>9.1 The raw materials and products shall be inspected by the enterprise itself or by consigning food inspection agencies with corresponding qualifications. The recording system for delivery inspection of food shall be established.</p> <p>9.2 There shall be corresponding inspection room and inspection capability for self-inspection. The inspection shall be implemented by the inspection personnel with corresponding qualifications based on required inspection method. The inspection instruments and equipment shall be inspected on regular basis.</p> <p>9.3 The inspection room shall be equipped with sound management system to properly preserve the original record and inspection report of each inspection. Products sampling system shall be built up to timely keep sample.</p> <p>9.4 Comprehensive consideration shall be taken for factors such as product characteristics, process characteristics, and material control condition to reasonably determine inspection items and frequency so that control measures can be effectively verified during production process. The inspection frequency of net content, sensory requirements, and other inspection items easy to change due to effect of production process shall be greater than that of other inspection items.</p> <p>9.5 For the same variety of product with different packaging, inspection items free from effect of packaging specification and packaging type may be inspected together.</p>	<p><b>Regulation (EC) No 852/2004, Article 5</b> (f) establishing procedures, which shall be carried out regularly, to verify that the measures outlined in subparagraphs (a) to (e) are working effectively; The verification of effective self-controls is a key objective of official controls in food establishments:</p> <p><b>Regulation (EU) 2017/625, Article 14</b> Official control methods and techniques shall include the following as appropriate: (a) an examination of the controls that operators have put in place and of the results obtained; (b) an inspection of: (i) equipment, means of transport, premises and other places under their control and their surroundings; (ii) animals and goods, including semi-finished goods, raw materials, ingredients, processing aids and other products used for the preparation and production of goods or for feeding or treating animals; (iii) cleaning and maintenance products and processes; (iv) traceability, labelling, presentation, advertising, and relevant packaging materials including materials intended to come into contact with food; (c) controls on the hygiene conditions in the operators' premises; (d) an assessment of procedures on good manufacturing practices, good hygiene practices, good farming practices, and of procedures based on the principles of hazard analysis critical control points (HACCP); (e) an examination of documents, traceability records and other records which may be relevant to the assessment of compliance with the rules referred to in Article 1(2), including, where appropriate, documents accompanying food, feed and any substance or material entering or leaving an establishment; (f) interviews with operators and with their staff; (g) the verification of measurements taken by the operator and other test results; (h) sampling, analysis, diagnosis, and tests; (i) audits of operators; (j) any other activity required to identify cases of non-compliance.</p>	<p><i>Guidance document</i> <b>Commission Notice 2016/C 278/01</b> provides that <i>adequate infrastructure and resources must be provided to develop, organise, and execute efficient self-controls.</i></p> <p>3.1 Assembly of a multidisciplinary HACCP team This team, which involves all parts of the food business concerned with the product, should include the whole range of specific knowledge and expertise appropriate to the product under consideration, its production (manufacture, storage, and distribution), its consumption and the associated potential hazards and should also involve as much as possible the higher management levels. The team should get the full support of the management who should consider itself owner of the HACCP plan and overall Food Safety Monitoring System.</p>



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<p><b>10 Storage and Transportation of Foods shall comply with the provisions of Chapter 10 of GB 14881-2013</b></p> <p>10.2 Different types of egg products should be stored in suitable warehouses, classified according to the label, and marked with the relevant product production date, specification, quantity, etc. The temperature and humidity of the warehouse should be monitored to ensure that the products are stored at the appropriate temperature and humidity.</p> <p>10.3 Containers used for the transport of liquid egg products should be made of safe and reliable materials, designed to be disposable or to facilitate cleaning and adequate drainage and should not be used for other purposes. The temperature should be controlled at 0°C to 4°C during transport and below -13°C for iced egg products. Temperature control devices should be placed in the transport carriage and regularly calibrated and maintained at least once a year.</p> <p><b>14881-2013</b></p> <p>10.1 Proper storage and transportation conditions are selected in accordance with requirements of food characteristics and hygienic requirements. Where necessary, the facilities shall be provided for thermal insulation, cold storage, and preservation. Foods shall not be stored and transported together with toxic, harmful, or smelly goods.</p> <p>10.2 Suitable warehousing system shall be established and carried out. In case of any abnormality, it shall be timely handled.</p> <p>10.3 The containers, tools and instruments and equipment to store, transport and load and unload foods shall be safe, harmless, and clean to lower the risk of food contamination.</p> <p>10.4 During the storage and transportation, direct sunlight, rain, notable temperature and humidity change and violent impact shall be avoided to prevent the adverse effect on foods.</p>	<p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IX</p> <p>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.</p> <p>8. Hazardous and/or inedible substances, including animal feed, are to be adequately labelled and stored in separate and secure containers.</p> <p><b>Regulation (EC) No 852/2004</b>, Annex II, Chapter IV</p> <p>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.</p> <p>7. 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.</p>	



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p><b>11 Product Recall Management shall comply with the provisions of Chapter 11 of GB 14881-2013</b></p> <p>11.1 The product recall system shall be established based on relevant national regulations.</p> <p>11.2 Where the produced food is not up to the food safety standard or other inedible conditions are found, the production shall be stopped immediately, and the food already sold in market shall be recalled. Relevant production operators and consumers shall be notified, and the recall and notification condition shall be recorded.</p> <p>11.3 The recalled food shall be safely disposed of or destroyed to prevent them from flowing into the market again. For foods that are recalled due to improper labelling, identification, or directions for use not in conformity with food safety standards, corrective measures shall be taken to ensure the safety of the products and explain the situation to consumers once the products are re-launched for sale.</p> <p>11.4 Production batch shall be reasonably divided and recorded, and it shall be labelled with product batch number for the convenience of product tracing.</p>	<p><b>Regulation (EC) No 178/2002, Article 19</b></p> <p>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.</p> <p>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.</p>	
<p><b>12 Training shall comply with the provisions of Chapter 12 of GB 14881-2013</b></p> <p>12.1 Training system for relevant posts of food production shall be established and the corresponding training on food safety knowledge shall be carried out for food processing personnel and practitioners.</p>	<p><b>Regulation (EC) No 852/2004, Annex II, Chapter XII</b></p> <p>Food business operators are to ensure:</p> <ol style="list-style-type: none"> <li>1. that food handlers are supervised and instructed and/or trained in food hygiene matters commensurate with their work activity;</li> <li>2. that those responsible for the development and maintenance of the procedure referred to in Article</li> </ol>	



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p>12.2 The awareness and responsibility of the practitioners to comply with relevant laws, regulations and standards of food safety and implement management system of food safety shall be improved and the corresponding knowledge level shall be improved through the process of training.</p> <p>12.3 The annual training plan of food safety shall be developed and implemented according to the actual demand of different posts of food production. The training plan should be evaluated, and the training should be recorded. 12.4 Where the relevant laws, regulations and standards of food safety are updated, training shall be developed in time.</p> <p>12.5 The training plan shall be examined and revised on regular basis and the training effect shall be evaluated. The routine inspection is carried out to guarantee the effective implementation of the training plan.</p>	<p>5(1) of this Regulation (= HACCP programme) or for the operation of relevant guides have received adequate training in the application of the HACCP principles; and</p> <p>3. compliance with any requirements of national law concerning training programmes for persons working in certain food sectors.</p>	
<p><b>13 Management System and Personnel shall comply with the provisions of Chapter 13 of GB 14881-2013</b></p> <p>13.1 The professional technical personnel and management personnel of food safety shall be allocated and the management system to ensure food safety shall be established.</p> <p>13.2 The management system of food safety shall correspond to the production scale, process level and variety characteristics of food and shall be constantly improved based on practical production and implementation experience.</p> <p>13.3 The management personnel shall master the basic principles and operation procedures of food safety and shall have the ability to judge the potential risks and take appropriate preventive and corrective measures to guarantee the effective management.</p>	<p><b>Regulation 178/2002</b> Article 17 Responsibilities</p> <p>1. Food and feed business operators at all stages of production, processing, and distribution within the businesses under their control shall ensure that foods or feeds satisfy the requirements of food law which are relevant to their activities and shall verify that such requirements are met.</p>	<p>Guidance document <b>Commission Notice 2016/C 278/01, Annex II, Heading 3: Preliminary activities</b></p> <p><b>3.1 Assembly of a multidisciplinary HACCP team</b></p> <p>This team, which involves all parts of the food business concerned with the product, should include the whole range of specific knowledge and expertise appropriate to the product under consideration, its production (manufacture, storage, and distribution), its consumption and the associated potential hazards and should also involve as much as possible the higher management levels. The team should get the full support of the management who should consider itself owner of the HACCP plan and overall Food Safety Monitoring System.</p>



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
<p><b>14 Record and Document Management shall comply with the provisions of Chapter 14 of GB 14881-2013</b></p> <p><b>14.1 Record management</b></p> <p>14.1.1 The recording system shall be established to record links of food production including purchasing, processing, storage, inspection, and marketing in details. The record contents shall be complete and true to ensure that all links from material purchasing to production, to marketing of the products can be traced effectively.</p> <p>14.1.1.1 The contents including name, specification, quantity, supplier' name and contact information and purchase date of food related products including food raw materials, food additives and food packaging materials shall be recorded faithfully.</p> <p>14.1.1.2 The contents including food processing (process parameters and environmental monitoring included), storage condition of food and inspection batch No., inspection date, inspection personnel, inspection method and inspection result of the products shall be recorded truthfully.</p> <p>14.1.1.3 The contents such as name, specification, quantity, production date, production batch No., purchaser's name and contact information, quality certificate and selling date of delivery product shall be recorded truthfully.</p> <p>14.1.1.4 The contents including name, batch, specification, quantity, recall reason and subsequent rectification program of recalled food shall be recorded truthfully.</p> <p>14.1.2 The purchasing inspection record of food related products including food raw materials, food additives and food packaging materials as well as delivery inspection record of foods shall be rechecked and signed by the recorders and examiner. The record contents shall be integral, which shall be kept not less than 2 years.</p> <p>14.1.3 The customer complaint handling mechanism shall be built up. As for the written or verbal advice and complaint put forward by customers, the related management departments of the enterprise shall make records, find out the reasons and handle them carefully.</p> <p>14.2 The document management system shall be established for effective document management to ensure that documents at each relevant location are valid.</p> <p>14.3 The advanced technology and means (electronic computer information system included) are encouraged to be adopted to implement record and document management.</p>		<p>Guidance document <b>Commission Notice 2016/C 278/01, Annex II, Heading 10: Documentation and record keeping</b></p> <p>Efficient and accurate record keeping is essential to the application of HACCP-based procedures. HACCP-based procedures should be documented in the HACCP-plan and continuously supplemented by records on findings. Documentation and record keeping should be appropriate to the nature and size of the operation and sufficient to assist the business to verify that the HACCP-based procedures are in place and being maintained. Documents and records should be kept for a sufficient period of time beyond the shelf life of the product for traceability purposes, for the regular revision of the procedures by the FBO and to allow the competent authority to audit the HACCP-based procedures. Documents should be signed by a responsible reviewing official of the company. Recommended documentation includes:</p> <ul style="list-style-type: none"> <li>- PRPs applied, working instructions, standard operational procedures, control instructions;</li> <li>- Description of the preparatory stages (before 7 principles);</li> <li>- Hazard analysis;</li> <li>- CCP (+/- PRPs) identification;</li> <li>- Critical limit determination;</li> <li>- Validation activities;</li> <li>- Corrective actions anticipated;</li> <li>- Description of planned monitoring and verification activities (what, who, when);</li> <li>- Record forms;</li> <li>- Modifications to the HACCP-based procedures;</li> <li>- Supporting documents (generic guides, scientific evidence, ...).</li> </ul> <p>Record examples are:</p> <ul style="list-style-type: none"> <li>- Outcome of CCP monitoring activities;</li> </ul>



Chinese National standard GB 21710 - 2016	EU Legislation	Implementing rules, other remarks
		<ul style="list-style-type: none"> <li>- Observed deviations and executed corrective actions;</li> <li>- Outcome of verification activities. Records should be kept for an appropriate period of time. That period should be long enough to ensure information to be available in case of an alert that can be traced back to the food in question. For certain foods the date of consumption is certain. For instance, in food catering, consumption takes place shortly after the time of production. For food for which the date of consumption is uncertain, records should be kept for a reasonably short period after the expiry date of the food. Records are an important tool for the competent authorities to allow verification of the proper functioning of the food businesses' FSMS. A simple record-keeping system can be effective and easily communicated to employees. It may be integrated into existing operations and may use existing paperwork, such as delivery invoices and checklists to record, for example, product temperatures.</li> </ul>



## 2.2 GB 14881-2013 GENERAL HYGIENE PRACTICE FOR FOOD PRODUCTION

Chinese National standard GB 14881-2013	EU Legislation	Implementing rules, other remarks
<p>General Hygiene Practice for Food Production</p> <p>This standard 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. This standard applies to production of various kinds of food and lays down the basis for the development of special hygienic practice for a certain kind of food production. In comparison to the previous version, it emphasizes food safety control requirements for the entire food production process, namely raw material, purchase, processing, product storage and transportation; it also lists major control measures for biological, chemical, and physical contaminations. It adds relevant requirements for the procurement, inspection and acceptance, transportation, and storage of raw materials. Finally, it mentions specific requirements on product traceability and recall, sets requirements on record keeping and document management</p>	<p>Most of the requirements reflect the one covered exhaustively by the 852/2004 and 853/2004, however specific points of interest are highlighted on Table 1 and Table 2 Appendix A that describe the general guide of monitoring procedure for microorganism for food production establishments.</p> <p>Also, Table 3 underline differences against EU Regulations 852/2004 and 853/2004. The differences identified are due principally to the level of details that the Standard describes in comparison to the wider specifications of the EU Regulations.</p>	<p>This appendix A in Table 1 advances the key points which shall be considered where the microbial monitoring procedure of food processing is developed. The microbial monitoring of food processing mainly covers the environmental microbial monitoring and microbial monitoring of process products. The environmental microbial monitoring is used with the main purpose of judging the hygienic control condition of processing and finding out the potential contamination sources.</p> <p>Generally, the environmental monitoring objects include food contact surface, adjacent contact surface to food or food contact surface and environmental air. The microbial monitoring of process product is mainly used to appraise the hygiene control capacity of processing and hygienic condition of product.</p> <p>The microbiological monitoring frequency of processing: monitoring frequency is determined based on the possible risk of contamination. The Standard states that the reasonable monitoring frequency may be determined according to relevant literature information, relevant experience and professional knowledge or accumulated historical data.</p> <p>The relevant EU Regulations 852/2004 and 853/2004 set the standard requirements for general and specific hygiene rules for food stuffs that cover plant and workshop design and layout, equipment, health and hygiene management system, raw material, packaging, and training. The standards requested by the two legislations in comparison are the same, even though the Chinese standard enters more into specifics; conditions that most probably MS set up nationally to reflect the EU Regulation or enter in SOPs and specific HACCP protocols.</p> <p>Several standards have been identified as generally overlapping to the relevant EU requirements hence no comparison table has been added.</p> <p>Obviously, products classification and processes definitions are not exactly expressed using the same words and terminology, also considering that there are not official translations to rely on.</p> <p>Remarks have been included when points of variation or difference in degree of specificity have been identified noteworthy for the Standard reviewed, finally tables of comparison have been added when the need to indicate deviations between the PRC and EU Standards has been identified.</p>



**Table 1: Appendix A general guide of monitoring procedure for microorganism for food production establishments as per GB 14881-2013 (1/2)**

Monitoring items		Suggested sampling points a	Suggested monitoring microorganism b	Suggested monitoring frequency c	Suggested monitoring Index limit
Microbial monitoring of environment	Food contact surface	Hands and work clothes of food processing personnel, surfaces of glove conveyors, tools and instruments and other equipment directly in contact with foods	Bacterial colony, coliform, etc	The verification of cleaning effects shall be carried out after the cleaning and disinfection and others may be carried out every week, every two weeks, or every month	Determined in combination with actual situation of production
	Contact surface adjacent to food or food contact surface	External surface of equipment, support surface, control panel and contact surface of part car	Indicator microorganism for hygienic condition bacteria colony and coliform; where necessary, the pathos bacteria is monitored	Every two weeks or every month	Determined in combination with actual situation of production
	Environmental air of processing area	Position close to exposed products	Bacteria colony, yeast etc	Every week, every two weeks, or every month	Determined in combination with actual situation of production



**Table 2: Appendix A general guide of monitoring procedure for microorganism for food production establishments as per GB 14881-2013 (Cont'd 2/2)**

Monitoring items	Suggested sampling points a	Suggested monitoring microorganism b	Suggested monitoring frequency c	Suggested monitoring Index limit
Microbial monitoring of process products	Process products whose microorganism level may change and affect food safety and (or) food quality during processing link	Indicator microorganism for hygienic condition such as total bacteria count, coliform bacteria, yeast moulds or other indicators	Every week (every two weeks or every month) for the products produced in the first time of shift beginning and subsequent continuous production process	Determined in combination with actual situation of production

a Sampling points may be selected in accordance with the food characteristics and actual situation of processing.

b One or more hygienic indicator microorganism may be selected for monitoring as required.

c Monitoring frequency may be determined based on the risk of specific sampling points.



**Table 3: Main differences identified between Chinese Standard and EU Regulations on general hygiene practices.**

GB 14881-2013	Reg. 852/2004, 853/2004
<p><b>The roads in the plant</b> shall be paved with concrete, tar, or other hard materials. Necessary measures shall be taken for vacant land, e.g., cement, floor tile or lawn shall be paved to maintain clean surrounding and prevent raising dust and accumulated water under normal weather.</p>	<p>Not as descriptive.</p>
<p><b>Indoor drainage</b> shall flow from areas with high cleanliness to those with low cleanliness and shall be designed to prevent backflow.</p>	<p>Same standards but only for open/partially open drainage system.</p>
<p><b>Personnel</b> involved in food processing shall take an annual physical examination and obtain a health certificate.</p>	<p>Not specified.</p>
<p><b>Work clothes</b> shall be designed and made to meet to the requirements of different operating areas to lower the risk of cross contamination. Position of work clothes pocket and connection fastening shall be reasonably selected to reduce the contamination risk brought by content or fastening dropping.</p>	<p>EU Regulation 853/2004 requires every person working in a food-handling area is to maintain a high degree of personal cleanliness and is to wear suitable, clean and, where necessary, protective clothing</p>
<p><b>Product Recall Management</b></p> <p>Where the produced food is not up to the food safety standard or other inedible conditions are found, the production shall be stopped immediately, and the food already sold in market shall be recalled.</p> <p>Relevant production operators and consumers shall be notified, and the recall and notification condition shall be recorded.</p> <p>The recalled food shall be safely disposed of or destroyed to prevent them from flowing into the market again.</p> <p>For foods that are recalled due to improper labelling, identification, or directions for use not in conformity with food safety standards, corrective measures shall be taken to ensure the safety of the products and explain the situation to consumers once the products are re-launched for sale.</p>	<p>Not Specified, however covered on the Regulation 178/2002.</p>



## 2.3 GB 39438-2020 IN FORCE - PACKED EGG

Chinese National standard 3.3 GB 39438-2020	EU Legislation	Implementing rules, other remarks
<p>This standard applies to the production and distribution of packaged eggs. It specifies the terms and definitions, grading, test methods, inspection rules, packaging, labelling, and marking, storage, transport, and marketing of packaged eggs. It must be read in conjunction with the following standards:</p> <p><b>GB/T 191—2008 - Packaging—Pictorial marking for handling of goods</b> <i>This standard applies to the transport packaging of various goods. It specifies the name, graphic symbol, size, colour and application method of the packaging, storage, and transportation icon (hereinafter referred to as the logo). It provides 17 examples of the graphics used, their meaning and a description of the examples. The logo sizes and colour are specified as are their uses and positioning. It has no equivalent in EU food hygiene legislation</i></p> <p><b>GB/T 2828.1-2012 - Sampling and inspection procedures for counting Part 1 : Lot-by-lot inspection sampling plan for retrieval by Acceptance Quality Limit (AQL)</b> <b>NY/T 823 – 2020 -Poultry production performance nomenclature and metrics statistical methods.</b> <i>This standard specifies the common terminology and metrics for the calculation of poultry production performance. It applies to the production, breeding, and scientific study of poultry. It has no equivalent in EU food hygiene legislation</i></p> <p>Packed eggs are defined as Fresh eggs that have been cleaned, graded, coded (or uncoded) and packaged to a uniform specification for sale. The grading requirements in PRC standard are outlined in Table 4. The egg quality grading requirements in PRC are shown in Table 5. The grading requirements for packed eggs in EU legislation are shown in Table 6. Detailed rules are laid down in PRC standards for factory and surveillance inspection of individual eggs and batches of eggs and in determining egg breakage rates. Examples are also provided to aid in interpretation of the standard in Table 8.</p> <p>In the PRC there are 3 grades of eggs suitable for human consumption i.e., grade AA (special), grade A (grade 1) and grade B (grade 2).</p>	<p>In the EU there are two grades Class A and Class B eggs provided for in EU legislation. Only Class A eggs may be sold to the consumer while Class B eggs shall only be delivered to the food and non-food industry.</p> <p>In addition in the EU, Class A eggs shall also be graded by weight. However, grading by weight shall not be required for eggs delivered to the food` and non-food industry.</p> <p>The words 'extra' or 'extra fresh' may be used as an additional quality indication on packs containing Class A eggs until the ninth day after laying of the eggs. No such provision in PRC legislation.</p>	<p>The substantive differences between PRC and EU legislation are outlined in Table 7.</p> <p>The labelling of eggs and packs of eggs are broadly similar but additional more specific requirements are provided for in EU regulations e.g., farming method.</p> <p>The date of minimum durability is clearly specified in EU legislation as 28 days after laying while no such indication is provided for in this standard.</p> <p>The principles of labelling are in broadly line with the labelling requirements under EU legislation.</p>



GB 39438-2020	COMMISSION REGULATION (EC) No 589/2008
<p><b>Packed egg</b> - Fresh eggs that have been cleaned, graded, coded (or uncoded) and packaged to a uniform specification for sale.</p>	<p>No definition for packed egg. However, the term pack is defined as follows: 'pack' means a wrapping containing Class A or B eggs, excluding transport packaging and containers of industrial eggs;</p>
<p><b>Group batches</b> - Packages of the same breed from the same egg farm produced on the same day or shift shall be considered as a group lot.</p>	<p>The EU definition is more detailed. 'batch' means the eggs in packs or loose from one and the same production site or packing centre, situated in one place, in the same packs or loose, with one and the same laying date or date of minimum durability or packing date, the same farming method, and in the case of graded eggs, the same quality and weight grading;</p>
<p>The standard sets down inspection types that must be carried out in the factory setting as follows. <b>Appearance inspection:</b> If the package specifications are listed in Appendix C, Table C.1, a random sample shall be taken in accordance with the sample size specified in Table C.1 for appearance inspection. <b>Packaging specifications</b> are not listed in Table C.1, in accordance with GB/T 2828.1-2012 in Table 1 and Table 2-A retrieval of sample size, according to the required number of samples for appearance inspection. <b>Inspection of the contents:</b> From the sample after the appearance inspection (without taking into account the results of the appearance inspection), 30 eggs are taken by equidistant sampling for the inspection of the contents. If the number of samples required equals or exceeds the batch size, a 100% inspection is carried out. The sampling plan and the number of eggs received in different sizes are shown in Table C.1</p>	<p>The following tolerances shall be allowed when checking batches of Class, A eggs: (a) at the packing centre, just before dispatch: 5 % of eggs with quality defects. (b) at the other marketing stages: 7 % of eggs with quality defects. 2. For eggs marketed as 'extra' or 'extra fresh', no tolerance shall be allowed for the height of the air space at the time of packing or import. 3. Where the batch checked contains fewer than 180 eggs, the percentages shall be doubled. A tolerance of 20 % of eggs with marks that are illegible shall be allowed in the checking of batches and packs.</p>
<p><b>Egg Grading - See table 5</b></p>	<p><b>See Table 6</b></p>
<p><b>Egg shell labelling</b> - Marking on the eggshell is desirable and should include, but not be limited to, the manufacturer's (or packer's) <b>code</b> (or trademark) and the date of production (or packaging). The marking should be of food grade material.</p>	<p>The producer <b>code</b> shall consist of the codes and letters provided for in point 2 of the Annex to Directive 2002/4/EC. It shall be easily visible and clearly legible and be at least 2 mm high. The indication referred to in point 1 of part A, III of Annex XIV to Regulation (EC) No 1234/2007 shall be a circle at least 12 mm in diameter around the letter 'B' at least 5 mm high, or an easily visible colour spot of at least 5 mm in diameter.</p>



GB 39438-2020	COMMISSION REGULATION (EC) No 589/2008
<p><b>Labelling of packages for sale</b></p> <p>The minimum sales package shall be labelled with the</p> <ul style="list-style-type: none"> <li>- Name,</li> <li>- Date of manufacture,</li> <li>- Name, address and contact details of the manufacturer (or packer),</li> <li>- Product execution standard,</li> <li>- Net content,</li> <li>- Quality level,</li> <li>- Batch number,</li> <li>- Shelf life,</li> <li>- Storage conditions, etc.</li> </ul> <p>The principles and form of labelling shall comply with the requirements of Appendix D.</p>	<p>Packs containing Class A eggs shall bear on the outer surface in easily visible and clearly legible type:</p> <ul style="list-style-type: none"> <li>(a) the packing centre code.</li> <li>(b) the quality grading; packs shall be identified either by the words 'Class A' or the letter 'A,' whether alone or in combination with the word 'fresh.'</li> <li>(c) the weight grading in accordance with Article 4(2) of this Regulation.</li> <li>(d) the date of minimum durability in accordance with Article 13 of this Regulation.</li> <li>(e) the wording 'washed eggs' for eggs washed in accordance with Article 3 of this Regulation.</li> <li><b>(f)</b> (f) as a special storage condition in accordance with Article 3(1)(6) of Directive 2000/13/EC, an indication advising consumers to keep eggs chilled after purchase.</li> </ul>
<p><b>Labelling of packages for Transport</b></p> <p>Transport packaging should be marked with the</p> <ul style="list-style-type: none"> <li>- Name,</li> <li>- Date of manufacture,</li> <li>- Name of the manufacturer (or packer),</li> <li>- Net content,</li> <li>- Transport and storage precautions, etc.,</li> <li>- And marked graphically in accordance with the relevant requirements of GB/T191</li> </ul>	<ul style="list-style-type: none"> <li>(a) the producer's name and address.</li> <li>(b) the producer codes.</li> <li>(c) the number of eggs and/or their weight.</li> <li>(d) the laying date or period.</li> <li>(e) the date of dispatch.</li> </ul>
<p><b>Shelf Life</b> – not specified in this standard. May be set in other standards</p>	<p>28 days post laying</p>
<p><b>Storage conditions</b></p> <p>Packaged eggs should be stored, transported, and sold at an ambient temperature of 0°C to 25°C and a relative humidity of 70% to 88%.</p> <p>They shall not be mixed with toxic, harmful, corrosive, or odorous goods.</p>	<p>Eggs should be stored and transported preferably at a constant temperature and should in general not be refrigerated before sale to the final consumer.</p> <p>Class A eggs shall not be treated for preservation or chilled in premises or plants where the temperature is artificially maintained at less than 5 °C.</p> <p>However, eggs which have been kept at a temperature below 5 °C during transport for not more than 24 hours or on retail premises or in annexes thereto for not more than 72 hours shall not be considered as chilled.</p>



**Table 4 Grading requirements for packed eggs in PRC**

Grade	Indicators			
	Proportion of extra-virgin eggs / %	Proportion of first grade eggs/%	Proportion of second-grade eggs/%	Breakage rate/%
AA	≥90	≤10	0	≤1
A	≥90		≤10	≤2
B	≥90			≤3

Note: The breakage rate requirement is only applicable to supervisory inspection.

**Table 5. Egg quality grading requirements PRC**

Indicators		Grading		
		Special	Grade 1	Grade 2
Appearance	Eggshell quality	The eggshell has the inherent colour and lustre of this type of eggshell, the eggshell is intact and undamaged, with no visible spots, sandy skin, or deformed eggs		
	Egg shell cleanliness	The shell has a stain visible to the naked eye, single		No stains visible to the naked eye on the exterior of the eggshell. The area of individual unclean objects should be ≤ 4m <sup>2</sup> and the total area of unclean. Total area of clean surface ≤ 8m <sup>2</sup>
Contents	Egg yolk	Complete, no loose yolk		
	Hastelloy unit	>72	>60	>55
	Protein	Viscous, clear Thick protein, thin protein clearly distinguishable	more viscous, clear Thick protein, thin protein clearly distinguishable	more viscous, clear
	Embryonic disc	no visible development		
	Foreign bodies	Blood and flesh spots less than 2mm in diameter are allowed, no other foreign bodies		



**Table 6. Egg quality grading requirements EU**

Indicators		Grading	
		Class A	Class B
Appearance	Eggshell quality	shell and cuticle: normal shape, clean and undamaged;	Do not meet requirements of Class A
	Egg shell cleanliness	foreign matter: not permissible;	
	Air Space	air space: height not exceeding 6 mm, stationary; however, for eggs to be marketed as 'extra,' it may not exceed 4 mm;	
Contents	Egg yolk	yolk: visible on candling as a shadow only, without clearly discernible outline, slightly mobile upon turning the egg, and returning to a central position;	
	Protein	clear, translucent;	
	Embryonic disc	imperceptible development;	
	Foreign bodies	Not permissible	
	Foreign smell	Not permissible	



**Table 7. Sampling plan and number of eggs received for appearance testing in different sizes of packaging in the PRC.**

Package size Pieces per piece	Per 100 pieces Number of pieces taken	Number of eggs	Number received	Per 50 pieces Number of pieces taken	Number of eggs	Number received
6	14	84	14	9	54	10
8	10	80	14	7	56	10
10	8	80	14	5	50	10
12	7	84	14	7	84	14
15	9	135	21	6	90	14
18	7	126	21	5	90	14
24	6	144	21	4	96	14
30	4	120	21	4	120	21
40	4	160	21	3	120	21
48	3	144	21	3	144	21
60	3	180	21	2	120	21
120	2	240	21	2	240	21
240	1	240	21	1	240	21
360	1	360	21	1	360	21

Note: If the total number of lots exceeds 50, the number of lots to be taken will be 100. If the total number of lots is less than 50, the number of lots will be taken according to 50.

If the total number of batches is less than 50, the number of pieces to be sampled will be 50. If the total number of batches is less than the required number of samples, then 100% of the batches will be sampled for inspection.



## 2.4 GB 2749-2015 IN FORCE NATIONAL STANDARDS FOR FOOD SAFETY - EGGS AND EGG PRODUCTS

Chinese National standard GB 2749-2015	EU Legislation	Implementing rules, other remarks
<p>This standard applies to fresh eggs and egg products. It specifies terms and definitions, sensory requirements, quality criteria, test methods, and sets microbiological and contaminant levels for fresh eggs and egg products. The sensory requirements of fresh eggs shall comply with the provisions of Table 9 and the sensory requirements of egg products shall comply with the provisions of Table 10.</p> <p><b>Fresh Eggs are defined as</b> Eggs in shell produced by poultry of <u>all kinds</u>, unprocessed or treated only by storage methods such as refrigeration, liquid immersion, coating, sterilisation, air conditioning, dry storage, etc. The standard refers to other Chinese legislation which is also addressed in this document e.g. contamination limits (GB 2762), pesticide limits (GB 2763), the limits for pathogenic bacteria (GB 29921) and the use of food additives and nutrient fortification (GB 2760).</p>	<p><b>COMMISSION REGULATION (EC) No 589/2008, EU Regulation 853/2004, and Regulation 2075/2005</b></p>	<p>Eggs may be used from poultry of all kinds in the PRC while only eggs of the species <i>Gallus gallus</i> may be used in the EU.</p> <p>The requirements in the PRC standard are not as specific as those laid down in EU regulations but differences do apply,</p> <p>Table 12 -Comparison between PRC and EU microbiological limits</p>
<p><b>Fresh eggs</b> - Eggs in shell produced by poultry of <b>all kinds</b>, unprocessed or treated only by storage methods such as refrigeration, liquid immersion, coating, sterilisation, air conditioning, dry storage, etc.</p>	<p>In general, the definitions in EU regulations are more precise e.g., incubated eggs, broken eggs, and industrial eggs.</p> <p><b>'eggs'</b> means eggs in shell — other than broken, incubated or cooked eggs — that are produced by hens of the species <i>Gallus gallus</i> and are fit for direct human consumption or for the preparation of egg products;</p>	<p>EU regulations are more precise</p>
<p><b>Liquid egg products</b> - Egg products made from fresh eggs after shelling and processing, such as whole egg liquid, egg yolk liquid, egg white liquid, etc.</p>	<p><b>EU Regulation 853/2004</b> defines "Liquid egg" means unprocessed egg contents after removal of the shell.</p>	



Chinese National standard GB 2749-2015	EU Legislation	Implementing rules, other remarks
<b>Dried egg products</b> - Egg products made from fresh eggs after shelling, processing, desugarisation and drying, such as whole egg powder, egg yolk powder, egg white powder, etc.	Not defined	
<b>Ice egg products</b> - Egg products made from fresh eggs by shelling, processing, and freezing, such as frozen whole eggs, frozen egg yolks, frozen egg whites, etc.	Not defined	
<b>Refined eggs</b> - Egg products made from fresh eggs with or without the addition of auxiliary materials and processed by different processes such as salt, alkali, dregs, and brine, such as skin eggs, salted eggs, salted egg yolks, dregs, and brine eggs, etc.	Not defined	
<p><b>Microbiological limits</b></p> <p>The limit of pathogenic bacteria should be in accordance with the provisions of GB29921.</p> <p>The reconstituted egg products in accordance with the canned food processing process shall comply with the requirements of commercial sterility of canned food.</p> <p>Microbiological limits should also comply with the provisions of Table 3.</p>	<p><b>EU Regulation 2073/2005</b> defines 'microbiological criterion' means a criterion defining the acceptability of a product, a batch of foodstuffs or a process, based on the absence, presence, or number of micro-organisms, and/or on the quantity of their toxins/ metabolites, per unit(s) of mass, volume, area, or batch.</p>	<p>See Table 12 - Comparison between PRC and EU microbiological limits</p>



**Table 9. Sensory requirements for fresh eggs**

Item	Requirements	Test method
Colour	The whole egg is slightly red when viewed through the light; after shelling the yolk is orange to orange and the whites are clear, Clear, transparent, no other unusual colour	Take fresh eggs with shells and observe them through perspective under the light. After removing the shell, put it in a white porcelain plate, and observe the colour and state under natural light. Smell it.
Odour	The egg liquid has an inherent fishy smell, no unusual odour	
Condition	Egg shell clean and intact, no cracks, no mouldy spots, no black spots, or foreign matter in the egg when viewed through the light; remove the egg yolk is intact and tough after shelling, the egg white is thin and clear, no external matter visible to normal vision foreign matter	

**Table 10. Sensory requirements for egg products**

Item	Requirements	Test method
Colour	Has the normal colour and lustre of the product	Take an appropriate amount of the sample and place it in a white porcelain dish. Observe the colour and condition under natural light. Taste it and smell it.
Odour	Normal taste and odour of the product, without any unpleasant taste	
Condition	The product is of normal shape and form, free from rancidity, mould, insects, and other foreign substances that may endanger food safety.	



**Table 12 -Comparison between PRC and EU microbiological limits**

<p>The limit of pathogenic bacteria should be in accordance with the provisions of GB29921.</p> <p>The reconstituted egg products in accordance with the canned food processing process shall comply with the requirements of commercial sterility of canned food.</p> <p>Microbiological limits should also comply with the provisions under</p>						Food category	Micro-organisms/their toxins, metabolites	Sampling		Limits		Analytical reference method (3 )	Stage where the criterion applies
								n	c	m	M		
Item	Sampling plan <sup>a</sup> nd limits				Test method	Egg products, excluding products where the manufacturing process or the composition of the product will eliminate the salmonella risk	Salmonella	5	0	Not detected in 25g		EN ISO 6579-1	Products placed on the market during their shelf-life
	n	c	m	M									
Total number of bacterial colonies / (CFU/g)	5	2	5x10 <sup>4</sup>	10 <sup>6</sup>	GB 4789.2	Ready-to-eat foods containing raw egg, excluding products where the manufacturing process or the composition of the product will eliminate the salmonella risk	Salmonella	5	0	Not detected in 25g or ml		EN ISO 6579-1	Products placed on the market during their shelf-life
Liquid egg products, dry egg products, iced egg products	5	2	10 <sup>4</sup>	10 <sup>5</sup>									
Re-cured eggs (excluding spoiled eggs)													
Coliform bacteria / (CFU/g)	5	2	10	10 <sup>2</sup>	GB 4789.3 Plate count method								
<p><sup>a</sup> Sampling and handling of samples is carried out in accordance with GB/T 4789.19.</p> <p><sup>b</sup> Not applicable to fresh eggs and non-ready-to-eat reconstituted egg products.</p>						Food category	Micro-organisms/their toxins, metabolites	Sampling		Limits		Analytical reference method (3 )	Stage where the criterion applies
						n	c	m	M				
						Egg Products	Enterobacteriaceae	5	2	10 cfu/g or ml	100 cfu/g or ml	EN ISO 21528-2	End of the manufacturing process
<p>Checks on the efficiency of the heat treatment and prevention of recontamination: Enterobacteriaceae in egg products : — satisfactory, if all the values observed are ≤ m, — acceptable, if a maximum of c/n values are between m and M, and the rest of the values observed are ≤ m, — unsatisfactory, if one or more of the values observed are &gt; M or more than c/n values are between m and M.</p>													



## 2.5 GB 21710-2016 -NATIONAL FOOD SAFETY STANDARDS CODE OF HYGIENIC PRACTICE FOR THE PRODUCTION OF EGGS AND EGG PRODUCTS (REPLACES GB/T 21710-2008 "CODE OF HYGIENIC PRACTICE FOR EGG PRODUCTS" [CAC/RCP 15-1976]).

Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
<p>This standard applies to the production of eggs and egg products</p> <p>The standard should be read in conjunction with GB 14881-2011, (General Hygiene Regulations for Food Enterprises). Please refer to page 3 in this document.</p> <p>It specifies the basic requirements and management guidelines for premises, facilities, and personnel in the production of eggs and egg products in relation to the procurement of raw materials, product flow, processing, packaging, storage, and transport. It emphasises the necessity to separate work areas of differing cleanliness levels e.g., the areas for shelling, pasteurisation, and filling.</p> <p>It also lists major control measures for biological, chemical, and physical contaminations by for example adopting measures to prevent cross-contamination of personnel, raw materials, packaging materials, waste and equipment entering and leaving the clean work area, such as setting up a changing room for personnel to change their work clothes, work shoes or shoe covers, setting up special logistics channels and waste channels.</p> <p>It adds relevant requirements for the procurement, inspection and acceptance, transportation, and storage of raw materials.</p> <p>Finally, it mentions specific requirements on product traceability and recall, sets requirements on record keeping and document management.</p>	<p>Most of the requirements reflect the ones covered by EU Regulations 852/2004 and 853/2004.</p> <p>The relevant EU Regulations are 852/2004 and 853/2004 that set the standards requirements for general and specific hygiene rules for food stuffs that cover plant and workshop design and layout, equipment, health and hygiene management system, raw material, packaging, and training.</p> <p>The standards requested in both sets of legislations are similar. However, some of the specifics would be addressed in the EU national legislation and the adoption of standard operating procedures, and specific HACCP protocols.</p>	<p>On the Standard, guidance is provided on the procedures for monitoring Salmonella in egg and egg products where these monitoring requirements can be used as a food safety management tool to assess the hygienic conditions in clean work areas and as a base procedure for Hazard Analysis and Critical Control Points (HACCP).</p> <p>A specific monitoring programme must be put in place in accordance with the provisions laid down in Section A.2 of the standard covering product type, sample type, microorganisms of concern, size and number of samples, and sample frequency.</p> <p>This may be used to develop a monitoring plan for Salmonella in the processing of eggs and egg products in conjunction with the production process and product characteristics, and to implement effective monitoring, and appropriate corrective measures shall be taken when the monitoring results indicate deviations.</p>



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
<p><b>The roads in the plant</b> shall be paved with concrete, tar, or other hard materials. Necessary measures shall be taken for vacant land, e.g., cement, floor tile or lawn shall be paved to maintain clean surrounding and prevent raising dust and accumulated water under normal weather.</p>	<p>Reg. 852/2004, 853/2004 Not as descriptive.</p>	
<p><b>The design</b> of the appliance shall take into account the safety of eggs and egg products and the risk of contamination and facilitate thorough cleaning and disinfection.</p>	<p>Section X Chapter II of EU Regulation 853/2004 states Food business operators must ensure that establishments for the manufacture of egg products are constructed, laid out and equipped so as to ensure separation of the following operations:</p> <ol style="list-style-type: none"> <li>1. washing, drying and disinfecting dirty eggs, where carried out;</li> <li>2. breaking eggs, collecting their contents and removing parts of shells and membranes;</li> <li>3. operations other than those referred to in points 1 and 2.</li> </ol>	
<p><b>Machines</b> or containers used for the production of liquid eggs shall be designed to remove foreign matter such as eggshells.</p>	<p>EU Regulation 853/2004 Not as descriptive.</p>	
<p><b>Waste</b> such as empty eggshells and unacceptable eggs shall be removed regularly by means of suitable containers, conveyors, or sinks, at least at the end of each working day. At least once a day at the end of the working day and at least once a day the waste should be removed from the plant. Containers and devices used for waste storage should be cleaned immediately after they are emptied and the area where the waste containers are placed should also be cleaned regularly, at least once a day.</p>	<p>EU Regulation 853/2004 Food waste, non-edible by-products and other refuse are to be removed from rooms where food is present as quickly as possible, so as to avoid their accumulation.</p> <p>EU Regulation 853/2004 Food waste, non-edible by-products and other refuse are to be deposited in closable containers, unless food business operators can demonstrate to the competent authority that other types of containers or evacuation systems used are appropriate. These containers are to be of an appropriate construction, kept in sound condition, be easy to clean and, where necessary, to disinfect.</p> <p>Adequate provision is to be made for the storage and disposal of food waste, non-edible by-products and other refuse. Refuse stores are to be designed and managed in such a way as to enable them to be kept clean and, where necessary, free of animals and pests.</p> <p>All waste is to be eliminated in a hygienic and environmentally friendly way in accordance with Community legislation applicable to that effect, and is not to constitute a direct or indirect source of contamination.</p>	



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
<p><b>Indoor drainage</b> shall flow from areas with high cleanliness to those with low cleanliness and shall be designed to prevent backflow.</p>	<p>EU Regulation 853/2004 Same standards but only for open/partially open drainage system.</p>	
<p><b>Personnel</b> involved in food processing shall take an annual physical examination and obtain a health certificate.</p>	<p>EU Regulation 853/2004 No health certificate required but staff must be in good health and undergo training on health risks.</p>	
<p><b>Work clothes</b> shall be designed and made to meet to the requirements of different operating areas to lower the risk of cross contamination. Position of work clothes pocket and connection fastening shall be reasonably selected to reduce the contamination risk brought by content or fastening dropping.</p>	<p>EU Regulation 853/2004 requires every person working in a food-handling area is to maintain a high degree of personal cleanliness and is to wear suitable, clean and, where necessary, protective clothing</p>	
<p><b>Procurement and acceptance requirements</b> The purchase and acceptance of food ingredients and packaging materials shall comply with the relevant provisions of Chapter 7 in GB14881-2013. The enterprise shall establish a supplier management system and stipulate the procedures for the selection, audit, and evaluation of suppliers. The processes and safety measures adopted by suppliers should be evaluated and, if necessary, suppliers should be subject to on-site evaluation or monitoring of processes, while ensuring that raw materials are sourced from non-infected areas. The company should check the documentation of product conformity and raw materials and packaging materials should be accepted before use. Acceptance of bulk agricultural products shall be recorded at least in terms of the name, quantity, contact details of the supplier, date of arrival, testing indicators and other relevant contents. It shall ensure that the raw materials purchased comply with the provisions of relevant national laws, regulations, and standards, and shall be tested regularly, at least once a year. The producer shall strictly control the proportion of broken eggs during transport, strictly follow the acceptance requirements of the enterprise for inspection and unqualified raw materials shall be rejected or isolated for separate treatment.</p>	<p>EU Regulation 853/2004 is not as descriptive. It states. “A food business operator is not to accept raw materials or ingredients, other than live animals, or any other material used in processing products, if they are known to be, or might reasonably be expected to be, contaminated with parasites, pathogenic microorganisms or toxic, decomposed or foreign substances to such an extent that, even after the food business operator had hygienically applied normal sorting and/or preparatory or processing procedures, the final product would be unfit for human consumption”</p>	



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
<p><b>Transport and storage requirements</b></p> <p>Tools and containers for transporting raw materials and packaging materials shall be kept clean, well maintained, and provide the necessary protection to avoid contamination of raw materials and packaging materials.</p> <p>Suitable control measures should be taken during transport to ensure the integrity of the raw material packaging and the integrity of the raw egg, and to keep transport times within reasonable limits.</p> <p>During storage different raw materials and packaging materials shall be stored in zones according to their characteristics and signs shall be established indicating the product name, quantity, source, and other relevant information.</p> <p>The storage of raw materials and packaging materials should be managed by a person, stored under suitable conditions of temperature and humidity, and cleaned at least once a month of raw materials and packaging materials that have deteriorated or exceeded their shelf life.</p>	<p><b>Chapter IV of EU Regulation 852/2004</b> states</p> <p>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.</p> <p>Receptacles in vehicles and/or containers are not to be used for transporting anything other than foodstuffs where this may result in contamination.</p> <p>Where conveyances and/or containers are used for transporting anything in addition to foodstuffs or for transporting different foodstuffs at the same time, there is, where necessary, to be effective separation of products.</p> <p>Bulk foodstuffs in liquid, granulate or powder form are to be transported in receptacles and/or containers/tankers reserved for the transport of foodstuffs. Such containers are to be marked in a clearly visible and indelible fashion, in one or more Community languages, to show that they are used for the transport of foodstuffs or are to be marked "for foodstuffs only".</p> <p>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.</p> <p>Foodstuffs in conveyances and/or containers are to be so placed and protected as to minimise the risk of contamination.</p> <p>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.</p>	
<p><b>Sorting</b> - Fresh eggs should be inspected before processing to select out defective eggs such as broken, damaged, or cracked shells.</p>	<p><b>EU Regulation 853/2004</b> required Food business operators must ensure that raw materials used to manufacture egg products comply with the following requirements.</p> <p>The shells of eggs used in the manufacture of egg products must be fully developed and contain no breaks. However, cracked eggs may be used for the manufacture of egg products if the establishment of production or a packing centre delivers them directly to a processing establishment, where they must be broken as soon as possible.</p> <p>The shells of eggs used in the manufacture of egg products must be fully developed and contain no breaks. However, cracked eggs may be used for the manufacture of liquid egg or egg products if the establishment of production or a packing centre delivers them directly to an establishment</p>	



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
	<p>approved for the manufacture of liquid egg or a processing establishment, where they must be broken as soon as possible.'</p> <p>Liquid egg obtained in an establishment approved for that purpose may be used as raw material. Liquid egg must be obtained in accordance with the requirements of points 1, 2, 3, 4 and 7 of Part III.</p>	
<p><b>Cleaning</b> - Fresh eggs should be cleaned as required, qualified suppliers of cleaning agents and disinfectants should be selected, safety risks of cleaning agents and disinfectants should be controlled, and cleaning and disinfection procedures should be developed</p>	<p><b>Regulation 853/2004</b> states</p> <p>Eggs must not be broken unless they are clean and dry.</p> <p>Eggs must be broken in a manner that minimises contamination, in particular by ensuring adequate separation from other operations. Cracked eggs must be processed as soon as possible.</p> <p>Eggs other than those of hens, turkeys or guinea fowl must be handled and processed separately. All equipment must be cleaned and disinfected before processing of hens', turkeys' and guinea fowls' eggs is resumed.</p> <p>Egg contents may not be obtained by the centrifuging or crushing of eggs, nor may centrifuging be used to obtain the remains of egg whites from empty shells for human consumption.</p>	
<p><b>Pasteurisation</b> -Liquid eggs shall be pasteurised using a proven pasteurisation formula, heated at a temperature sufficient to kill Salmonella, or using another proven treatment that gives the same results. Pasteurisation of different liquid eggs (e.g., whole egg, egg white, yolk) requires different time-temperature combinations and microbiological tests should be carried out at least every 3 months on the product treated in the pasteuriser to verify the effectiveness of the pasteurisation. Microbiological tests should also be carried out on the products processed by the steriliser to verify the sterilisation effect once changes in raw materials, machinery and equipment, environmental conditions, etc. have occurred.</p> <p>At the end of pasteurisation, all liquid egg products should be immediately cooled to below 7°C for temporary storage if the next step in processing is not immediately available.</p> <p>At each stage after pasteurisation, controls should be in place to protect all types of products from contamination.</p>	<p>After breaking, each particle of the egg product must undergo processing as quickly as possible to eliminate microbiological hazards or to reduce them to an acceptable level. A batch that has been insufficiently processed may immediately undergo processing again in the same establishment, if this processing renders it fit for human consumption. When a batch is found to be unfit for human consumption, it must be denatured so as to ensure that it is not used for human consumption.</p> <p>After breaking, each particle of the liquid egg must undergo processing as quickly as possible to eliminate microbiological hazards or to reduce them to an acceptable level.</p> <p>A batch that has been insufficiently processed may immediately undergo processing again in the same establishment if this processing renders it fit for human consumption. Where a batch is found to be unfit for human consumption, it must be denatured to ensure that it is not used for human consumption.</p>	



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
	<p>Processing is not required for egg white intended for the manufacture of dried or crystallised albumin destined subsequently to undergo heat treatment.</p> <p>Products that have not been stabilised so as to be kept at room temperature must be cooled to not more than 4 °C. Products for freezing must be frozen immediately after processing.</p>	
<p><b>Metal detection</b> -Metal detection devices should be configured and adjusted to optimum conditions to minimise foreign body contamination during product processing. Metal detection devices should be verified prior to each use to ensure they are operating effectively.</p>	<p>Not specified</p>	
<p><b>Film application</b> - A qualified supplier should be selected for the coating of the fresh egg surface, and the coating agent used should meet the requirements of the relevant standards, while controlling the appropriate amount of coating. Ensure that microorganisms do not multiply and that fresh eggs are not contaminated by the coating agent.</p>	<p>Not specified</p>	
<p><b>Egg beating</b> - Eggs should be broken manually or mechanically, one by one. It is not advisable to use the extrusion method to break eggs to avoid microbiological contamination and foreign matter contamination.</p>	<p>Eggs must be broken in a manner that minimises contamination, in particular by ensuring adequate separation from other operations. Cracked eggs must be processed as soon as possible.</p>	
<p><b>Filtration and collection</b> - Liquid eggs should be filtered using appropriate filters, centrifuges, or other suitable equipment. A suitable mesh size should be selected, and controls should be put in place to ensure that the strainers are in good condition and clean. The strainers should be inspected and cleaned at least once per shift and replaced if necessary. Cleaning should be carried out in strict accordance with the relevant requirements and the effect should be verified after cleaning to ensure that subsequent products are not contaminated.</p>	<p>Not as detailed</p> <p>Egg contents may not be obtained by the centrifuging or crushing of eggs, nor may centrifuging be used to obtain the remains of egg whites from empty shells for human consumption.</p>	
<p><b>Temporary storage</b> - Temporary storage of egg liquor should be at a temperature of no more than 7°C and the next step in the process should be carried out within 24h to ensure that microorganisms do not grow and multiply.</p>	<p>If processing is not carried out immediately after breaking, liquid egg must be stored either frozen or at a temperature of not more than 4 °C.</p> <p>The storage period before processing at 4 °C must not exceed 48 hours.</p> <p>However, these requirements do not apply to products to be de-sugared if de-sugaring process is performed as soon as possible.</p>	



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
	Products that have not been stabilised so as to be kept at room temperature must be cooled to not more than 4 °C. Products for freezing must be frozen immediately after processing.	
<b>Control of key factors in the processing of dried egg products</b>		
<b>Powder spraying</b> - It should be ensured that the moisture content of the egg powder is within the appropriate range. The temperature of the air inlet and outlet should be controlled during powdering, the moisture content of each batch of egg powder should be tested and substandard products should be disposed of properly.	Not specified	
<b>Egg powder hot room treatment</b> - The temperature of the heat treatment room and the centre of the egg powder should be monitored, and the thermometer should be calibrated regularly, at least once a year.	Not specified	
<b>Control of key factors in the processing of reconstituted eggs</b>		
<b>Batching</b> - The various food ingredients should be weighed on calibrated scales and double checked by a person. The amount of food additives used in the ingredients should be monitored and the relevant provisions of GB 2760 should be strictly followed to ensure that they are within the appropriate range.	Not specified	
<b>Fluid management</b> - For repeatedly used liquids, the relevant indicators should be tested before each use to ensure that they meet the requirements of the liquid's indicators.	Not specified	
<p><b>Dehulling</b> - After shelling by the shelling machine, suitable measures (e.g., manual shelling) should be taken to remove eggs that are not cleanly shelled to ensure that there are no shells on the surface of the white boiled eggs. If the eggs cannot be processed immediately after shelling, they should be stored below 10°C and processed for the next step within 12h.</p> <p><b>Pickling</b> - Preserved leather and salted eggs should be preserved according to the prescribed operation and shell breaking checks should be carried out during the preserving process. The preserving temperature and time should be</p>	Not specified	



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
controlled, and the thermometer and timer should be calibrated regularly, the calibration frequency should be at least once a year.		
<b>Brining</b> - Brining should be carried out in accordance with the specified operations, brining temperature and time should be monitored and thermometers and timers should be calibrated periodically, and the frequency of calibration should be at least once a year.	Not specified	
<b>Vacuum flexible packaging</b> - Packaging materials should be sterilised in an appropriate manner prior to product packaging, the parameters of the vacuum packaging machine should be monitored during packaging to ensure that they do not deviate from the limits, the vacuum packaging machine should be cleaned at a frequency of once per shift and the maintenance of the vacuum packaging machine should be enhanced. The vacuum packaging seal should be monitored to ensure that it is flat and free from air leakage.	Not specified	
<b>High temperature sterilisation</b> - Vacuum-packed products should be sterilised in accordance with the specified operating procedures, and key parameters such as temperature, pressure and sterilisation time of the sterilisation equipment should be monitored.	Not specified	
<p><b>Storage and transport of products</b></p> <p>The relevant provisions in Chapter 10 of GB14881-2013 should be met.</p> <p>Different types of egg products should be stored in suitable warehouses, classified according to the label, and marked with the relevant product production date, specification, quantity, etc. The temperature and humidity of the warehouse should be monitored to ensure that the products are stored at the appropriate temperature and humidity.</p> <p>Containers used for the transport of liquid egg products should be made of safe and reliable materials, designed to be disposable or to facilitate cleaning and adequate drainage and should not be used for other purposes. The temperature should be controlled at 0°C to 4°C during transport and below -13°C for</p>	<p>In addition to the general requirements for identification marking laid down in Annex II, Section I, consignments of egg products, destined not for retail but for use as an ingredient in the manufacture of another product, must have a label giving the temperature at which the egg products must be maintained and the period during which conservation may thus be assured.</p> <p>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.</p>	



Chinese National standard GB 21710-2016	EU Legislation	Implementing rules, other remarks
iced egg products. Temperature control devices should be placed in the transport carriage and regularly calibrated and maintained at least once a year.		
<p><b>Product Recall Management</b></p> <p>Where the produced food is not up to the food safety standard or other inedible conditions are found, the production shall be stopped immediately, and the food already sold in market shall be recalled.</p> <p>Relevant production operators and consumers shall be notified, and the recall and notification condition shall be recorded.</p> <p>The recalled food shall be safely disposed of or destroyed to prevent them from flowing into the market again.</p> <p>For foods that are recalled due to improper labelling, identification, or directions for use not in conformity with food safety standards, corrective measures shall be taken to ensure the safety of the products and explain the situation to consumers once the products are re-launched for sale.</p>	Not Specified.	This requirement is covered by the Regulation 178/2002.
<p><b>Air monitoring</b></p> <p>The enterprise shall set standards according to the actual situation to ensure that the air purification level of each operation area meets the requirements for air purification for egg and egg product processing, and shall conduct regular tests, the interval between tests shall be no more than 3 months.</p>	Not specified but mentioned in a general manner under Annex II, Chapter 1 point 2 of EU Regulation 852/2004: “permit adequate maintenance, cleaning and/or disinfection, avoid or minimise air-borne contamination, and provide adequate working space to allow for the hygienic performance of all operations”.	

Table 13 and 14 are a general guide of monitoring procedure for microorganism for food production establishments.

Table 15 sets out the monitoring requirements for Salmonella in the processing of eggs and egg products.

Table 16 sets out the EU monitoring/testing requirements for egg products.



**Table 13: General guide of monitoring procedure for microorganism for food production establishments as per GB 14881-2013 (1/2)**

Monitoring items		Suggested sampling points a	Suggested monitoring microorganism b	Suggested monitoring frequency c	Suggested monitoring Index limit
Microbial monitoring of environment	Food contact surface	Hands and work clothes of food processing personnel, surfaces of glove conveyors, tools and instruments and other equipment directly in contact with foods	Bacterial colony, coliform, etc	The verification of cleaning effects shall be carried out after the cleaning and disinfection and others may be carried out every week, every two weeks, or every month	Determined in combination with actual situation of production
	Contact surface adjacent to food or food contact surface	External surface of equipment, support surface, control panel and contact surface of part car	Indicator microorganism for hygienic condition bacteria colony and coliform; where necessary, the pathos bacteria is monitored	Every two weeks or every month	Determined in combination with actual situation of production
	Environmental air of processing area	Position close to exposed products	Bacteria colony, yeast etc	Every week, every two weeks, or every month	Determined in combination with actual situation of production



**Table 14: General guide of monitoring procedure for microorganism for food production establishments as per GB 14881-2013 (Cont'd 2/2)**

Monitoring items	Suggested sampling points a	Suggested monitoring microorganism b	Suggested monitoring frequency c	Suggested monitoring Index limit
Microbial monitoring of process products	Process products whose microorganism level may change and affect food safety and (or) food quality during processing link	Indicator microorganism for hygienic condition such as total bacteria count, coliform bacteria, yeast moulds or other indicators	Every week (every two weeks or every month) for the products produced in the first time of shift beginning and subsequent continuous production process	Determined in combination with actual situation of production

- a. Sampling points may be selected in accordance with the food characteristics and actual situation of processing.
- b. One or more hygienic indicator microorganism may be selected for monitoring as required.
- c. Monitoring frequency may be determined based on the risk of specific sampling points.



**Table 15. PRC Monitoring requirements for Salmonella in the processing of eggs and egg products.**

Monitoring Items	Suggested sampling points	Recommended Microorganisms	Recommended Monitoring Frequency	Suggested monitoring limit values
Raw egg	Egg yolk	Salmonella	Monthly	Not detectable
Raw egg	Egg mixture	Salmonella	per month	Not detectable
Surfaces in direct contact with food	Egg transport pipes, surfaces of shell breakers, etc.	Salmonella	Every 3 months	Not detectable

**Table 16. EU Monitoring requirements for Salmonella in egg products (2073/2005)**

Food category	Microorganisms, their metabolites, and toxins	Sampling Plan(1)		Limits(2)		Analytical Reference Method(3)	Stage where the criterion applies
		n	c	m	M		
Egg products, excluding products where the manufacturing process or the composition of the product will eliminate the salmonella risk	<b>Salmonella</b>	<b>5</b>	<b>0</b>	<b>Absence in 25g</b>		<b>EN/ISO 6579</b>	Products placed on the market during their shelf-life
Egg Products	Enterobacteriaceae	<b>5</b>	<b>2</b>	<b>10cfu/g or ml</b>	<b>100 cfu/g or ml</b>	<b>ISO 21528-2</b>	End of the manufacturing process

( 1) n = number of units comprising the sample; c = number of sample units giving values over m or between m and M. ( 2) For points 1.1-1.24 m=M. ( 3) The most recent edition of the standard shall be used.



## 2.6 GB 5009.228—2016 NATIONAL STANDARDS FOR FOOD SAFETY DETERMINATION OF VOLATILE SALT NITROGEN IN FOOD

Chinese National standard GB 5009.228—2016	EU Legislation	Implementing rules, other remarks
<p>This standard specifies a method for the determination of volatile saline nitrogen in food.</p> <p>It applies to the determination of volatile salt nitrogen in foodstuffs with meat as the main raw material, fresh (frozen) meat, meat products and prepared meat products of animals, animal fish and seafood and their prepared products, preserved egg products such as skinned eggs (puffed eggs) and salted eggs.</p> <p>The tests (semi micro determination, the automatic Kjeldahl method and the Microdiffusion method) determine the amount of volatile saline nitrogen which is used to determine the level of spoilage in a product.</p>	<p>There is no equivalent in EU legislation for eggs and egg products</p>	<p>However, Chapter II of Commission Implementing regulation 2019/627 laying down uniform practical arrangements for the performance of official controls on products of animal origin intended for human consumption in accordance with Regulation (EU) 2017/625 of the European Parliament and of the Council and amending Commission Regulation (EC) No 2074/2005 as regards official controls specifies in Annex VI, Chapter II the <u>CONTROLS ON TOTAL VOLATILE BASIC NITROGEN (TVB-N)</u> for certain categories of fishery products and analysis methods to be used.</p> <ol style="list-style-type: none"> <li>1. EU regulation 853/2004 require eggs used in the production of egg products to be analysed for the following specifications:</li> <li>2. The concentration of 3-OH-butyric acid must not exceed 10 mg/kg in the dry matter of the unmodified egg product.</li> <li>3. The lactic acid content of raw material used to manufacture egg products must not exceed 1 g/kg of dry matter. However, for fermented products, this value must be the one recorded before the fermentation process.</li> <li>4. The quantity of eggshell remains, egg membranes and any other particles in the processed egg product must not exceed 100 mg/kg of egg product.</li> </ol>



## 2.7 GB/T 23970-2009 - POT-ROAST EGG

Chinese National standard GB/T 23970-2009	EU Legislation	Implementing rules, other remarks
<p>This standard applies to the production, sale, and inspection of pot roast eggs as defined in the standard.</p> <p>It specifies the terms and definitions, technical requirements, hygiene requirements for processing, test methods, inspection rules, marking, packaging, transport, and storage requirements for brined eggs.</p> <p>It specifies that raw materials such as raw eggs, soy sauce, white sugar, table salt and other ingredients must comply with corresponding national provisions.</p> <p>It lays down sensory requirements, which are measured by visual inspection, oral tasting, nasal smell, hand touch, and these are tabulated in Table 18</p> <p>The physical and chemical indicators are outlined in Table 19 while the hygiene specific indicators are outlined in Table 20</p> <p>It specifies test methods for heavy metals and microorganisms by reference to other PRC standards and in particular GBT 5009.</p> <p>It lays down inspection rules, frequency of testing and the interpretation of findings. The inspections must be carried out at the level of production.</p> <p>Finally, it lays down rules for marking, packaging, transport, and storage of this product.</p>		
<p><b>Pot-roast egg</b> - Egg products processed from raw poultry eggs by cleaning, boiling, shelling, brining, packaging, sterilization, cooling, and other processes.</p>	<p>EU Regulation 853/2004 defined as an egg product in EU regulations: "Egg products" means processed products resulting from the processing of eggs, or of various components or mixtures of eggs, or from the further processing of such processed products.</p>	
<p>Raw egg: should comply with the provisions of GB2748 and the corresponding national product standards.</p>	<p>EU Regulation 853/2004: Food business operators must ensure that raw materials used to manufacture egg products comply with the following requirements.</p>	



<p>Soy sauce: should comply with the provisions of GB2717.                  White sugar: should comply with the provisions of GB317.                  Table salt: It shall comply with the provisions of GB2721.                  Other excipients: shall comply with the corresponding national standards and relevant regulations.</p>	<p>The shells of eggs used in the manufacture of egg products must be fully developed and contain no breaks. However, cracked eggs may be used for the manufacture of egg products if the establishment of production or a packing centre delivers them directly to a processing establishment, where they must be broken as soon as possible                  Liquid egg obtained in an establishment approved for that purpose may be used as raw material. Liquid egg must be obtained in accordance with the requirements of points 1,2,3,4 and 7 of Part III.</p> <p>Not defined.</p>	
<p>Group Batch - The same batch of raw materials, the same packaging specifications, to a shift production of products as a batch.</p>	<p>'batch' means the eggs in packs or loose from one and the same production site or packing centre, situated in one place, in the same packs or loose, with one and the same laying date or date of minimum durability or packing date, the same farming method, and in the case of graded eggs, the same quality and weight grading;</p>	



**Table 18. Sensory requirements in GB/T 23970-2009**

Item	Requirement
Colour	Light brown to dark brown for the egg white, yellow to brown for the yolk
Odour	The product should have a pleasant odour, no offensive smell
Tissue	The egg is basically intact, firm, flexible and tough
Impurities	No visible foreign impurities

**Table 19. Physico-chemical indicators**

Item	Indicator
Water content %	≤ 70

**Table 20. Hygiene Indicators**

Item	Indicator
Inorganic arsenic / (mg/kg) ≤	0*
Lead (Pb)/(mg/kg) ≤	0.2 mg/kg
Zinc (Zn)/(mg/kg) ≤	Comply with the provisions of GB 2749
Total mercury (as Hg) / (mg/kg) ≤	0.05 mg/kg
Microorganisms	Shall comply with the requirements for commercial sterility of canned food

\*For products that should have inorganic arsenic limit, total arsenic should be tested first; when the total arsenic level is lower or equals to the inorganic arsenic limit, it is not necessary to test the inorganic arsenic; otherwise, the inorganic arsenic should be tested again.



## 2.8 GB/T 4789.19-2003 - MICROBIOLOGICAL EXAMINATION OF FOOD HYGIENE-EXAMINATION OF EGG AND EGG PRODUCTS (REPLACED GB/T 4789.19-1994)

Chinese National standard GB/T 23970-2009	EU Legislation	Implementing rules, other remarks
<p>This standard applies to the inspection of fresh eggs and egg products. It specifies the basic requirements and test methods for the inspection of eggs and egg products. It lays down rules in relation to testing equipment and materials, laboratory supplies and culture media and reagents. It details procedures in connection with taking and preparation of samples, the handling of samples and sending such samples to the laboratory for analysis. It provides specifics on the number of eggs and egg products inoculated and the quantity and composition of the medium. See Table 23 under for additional detail. It specifies that the test methods to be used to determine total bacterial count, total coliforms, presence of Salmonella and Shigella must be in accordance with the following standards. Determination of total bacterial colony : according to GB/T 4789.2; Determination of coliform : according to GB/T 4789.3; Salmonella test : according to GB/T 4789.4; Shigella test : according to GB/T 4789.5.</p>	<p>There is no direct equivalent food hygiene legislation in EU which lays down the type of sampling equipment, sampling rules and handling and processing of samples. However, if the totality of food hygiene EU legislation is considered, then the requirements specified in this standard would be addressed.</p>	
<p>The sampling quantities for quality assessment of batches of products are as follows. Pasteurised whole egg powder, egg yolk powder, egg white flakes and other products to produce a day or a batch of production for the test of Salmonella, according to 5% of the total number of samples per batch (i.e. every 100 boxes in five boxes, one sample per box), but at least three samples per batch. When determining the total number of bacteria and coliform, each batch should be sampled three times before, during and after the loading process, with 100g sampled each time, and each batch should be combined into one sample. Pasteurised frozen whole eggs, frozen egg yolks and frozen egg whites are sampled according to the production batch number at the time of loading. When testing for Salmonella, one sample is taken for every 250kg of iced egg yolk and iced egg white, and one sample is taken for every 500kg of pasteurised iced whole egg. For the determination of the total number of bacteria and coliforms, three samples will be taken before, during and after each batch of loading, with 100g of each sample being taken as one sample.</p>	<p><b>Regulation (EC) No 853/2004</b> and their implementing measures do not specify sampling or analysis methods, food business operators may use appropriate methods laid down in other Community or national legislation or, in the absence of such methods, methods that offer equivalent results to those obtained using the reference method if they are scientifically validated in accordance with internationally recognised rules or protocols.</p>	<p>Various ISO standards e.g. ISO 6579, ISO 21528-2</p>



Chinese National standard GB/T 23970-2009	EU Legislation	Implementing rules, other remarks
<p>For fresh eggs, bad eggs and skin egg shells, fully wipe the egg shell with a cotton swab moistened with sterilised saline, then put the cotton swab directly into the culture medium to increase bacteria culture, or put the whole egg into a small sterilised beaker or dish, add a quantitative amount of sterilised saline or liquid culture medium as required by the test sample, and then fully scrub the surface of the egg shell with the sterilised cotton swab and use the scrubbing liquid as the test sample.</p> <p>Fresh egg liquid: wash the fresh egg under running water, leave it to dry and then disinfect the egg shell with 75% alcohol wool, then open the egg shell and take out the egg white, yolk or whole egg liquid according to the test requirements, put it into a sterilised bottle with glass beads and shake it well for testing.</p> <p>Pasteurised whole egg powder, egg white flakes, egg yolk powder: put the sample into a sterilised bottle with glass beads and add sterilised saline in proportion to the sample and shake well for inspection.</p> <p>Pasteurised whole egg, egg white, egg yolk: Soak the bottle with ice egg sample in cold running water, let the sample melt and then take it out, put it into a sterilised bottle with glass beads and shake it well for examination.</p> <p>Various egg products Salmonella enrichment culture: weigh the sample with aseptic procedures, inoculate it in enrichment medium such as brilliant green selenite or brilliant green broth (this medium is placed in a sterilised bottle with an appropriate amount of glass beads in advance), cover the bottle tightly, shake well, then put it into a 36°C±1°C oven and incubate it for 20h±2h.</p>	<p>Regulation (EC) No 853/2004 and their implementing measures do not specify sampling or analysis methods, food business operators may use appropriate methods laid down in other Community or national legislation or, in the absence of such methods, methods that offer equivalent results to those obtained using the reference method if they are scientifically validated in accordance with internationally recognised rules or protocols.</p>	<p>Various ISO standards e.g. ISO 6579, ISO 21528-2</p>



**Table 23. Number of samples inoculated, quantity and concentration of media.**

Type of sample	Number of samples inoculated	Amount of medium / mL	Brilliant green concentration / (g/mL)
Pasteurised whole egg powder	6g (with 24mL of sterilised water)	120	1/6,000~1/4,000
Egg yolk powder	6g (add 24mL of sterilised water)	120	1/6,000~1/4,000
Fresh egg liquid	6mL (add 24mL of sterilised water)	120	1/6,000~1/4,000
Egg white flakes	6g (plus 24mL of sterilised water)	150	1/1 000 000
Pasteurised whole egg on ice	30g	150	1/6 000~1/4 000
Iced egg yolk	30g	150	1/6,000~1/4,000
Ice egg white	30g	150	1/60,000~1/50,000
Fresh eggs, spoiled eggs, skinned eggs	30g	150	1/6,000~1/4,000

Note: Brilliant green should be added to the broth at the time of use and the concentration of brilliant green is calculated as the total amount of the sample and broth.



## 2.9 GB/T 34262-2017 -TERMS AND CLASSIFICATION OF EGG AND EGG PRODUCTS

Chinese National standard GB/T 34262-2017	EU Legislation	Implementing rules, other remarks
<p>This standard applies to the processing, inspection, logistics and marketing of eggs and egg products.</p> <p>It specifies the terminology and definition, classification principles and classification of eggs and egg products.</p> <p>The list of definitions which relate to processed egg products include shallow process egg products, finely processed egg products, salted egg, salted egg yolk, salted egg white, permeability rate of salted yolk, distiller's egg, vinegar egg, spiced corned egg, pot-roast egg products of vacuumizing soft package, preserved egg, song hua, yolk preserved egg, hard yolk preserved egg, boiled egg, roast egg, frozen whole egg, liquid yolk egg, frozen egg yolk, iced egg white, egg dried, whole egg dried, egg yolk dried, egg white dried (flake), preserved egg dried, seasoning egg products, egg sausage,</p> <p>The standard states the classification of eggs and egg products is based on their properties and degree of processing, and it provides a list of both these categories i.e., eggs and egg products.</p> <p>It should be noted that some of the classifications used are not defined e.g., bad drunk eggs, skinned eggs, tea scented eggs etc.</p> <p>The list of definitions which apply to eggs are:</p> <ul style="list-style-type: none"> <li>- broken egg,</li> <li>- flaw egg, flow white egg,</li> <li>- broken and inferior rate,</li> <li>- bad egg,</li> <li>- bad egg rate, and</li> <li>- filmed egg.</li> </ul>	<p>Differences in definitions with the EU Regulation used are specified in Table 24.</p>	<p>Some of the definitions used in the standard are similar to EU definitions but not exactly the same.</p> <p>The PRC standard covers terminology and definitions which are</p> <ul style="list-style-type: none"> <li>- either not present in EU legislation,</li> <li>- known by another term/name in the EU,</li> <li>- not manufactured in the EU.</li> </ul>



**Table 24. Differences in definitions used in the PRC and the EU**

PRC definitions	EU definitions
<p><b>Egg- Shell eggs</b> - Eggs laid by birds. (Note: For example: eggs, duck eggs, goose eggs and quail eggs.)</p> <p><b>Fresh egg</b> - Unprocessed eggs laid by birds with or without storage and temperature treatment and of good quality</p>	<p><b>Eggs</b> means eggs in shell – other than broken, incubated or cooked eggs – that are produced by farmed birds and are fit for direct human consumption or for the preparation of egg products.</p>
<p><b>Liquid yolk egg</b> Egg products made from eggs by washing, shelling, separating the egg white, filtering, cooling, adding (or not adding) food additives, sterilizing (or not sterilizing), cooling (or not cooling), packaging and other processes.</p> <p><b>Egg liquid-</b> The general term for the object inside the egg after it has been broken and shelled.</p> <p><b>Liquid whole egg</b> -Egg products made from fresh eggs by washing, shelling, filtering, cooling, adding (or not adding) food additives, homogenizing, sterilizing (or not sterilizing), cooling (or not cooling), packaging and other processes.</p>	<p><b>Liquid eggs</b> means unprocessed egg contents after removal of the shell.</p>
<p>broken egg - Eggs with cracked, broken, or sunken shells due to external forces</p>	<p><b>'broken eggs'</b> means eggs showing breaks of both the shell and the membranes, resulting in the exposure of their contents.</p> <p><b>Cracked eggs</b> means eggs with damaged shell and intact membranes.</p>
<p>None</p>	<p>'packing centre' means a packing centre within the meaning of Regulation (EC) No 853/2004 that is authorised according to Article 5(2) of this Regulation and where eggs are graded by quality and weight</p>
<p><b>Egg products-</b> Egg products in solid (with or without shell) or liquid form, made from eggs as the main</p>	<p>"Egg products" means processed products resulting from the processing of eggs, or of various components or mixtures of eggs, or from the further processing of such processed products.</p>
<ul style="list-style-type: none"> <li>• <b>Many other definitions are specified</b></li> <li>• flaw egg,</li> <li>• flow white egg,</li> <li>• broken and inferior rate,</li> <li>• bad egg rate, and</li> <li>• filmed egg</li> </ul>	<p>No equivalent in EU</p>



## 2.10 GB/T 25009-2010 -CRITERION OF PRODUCING MANAGEMENT FOR EGG PRODUCTS.

Chinese National standard GB/T 25009-2010	EU Legislation	Implementing rules, other remarks
<p>This standard applies to the quality management of the production process of <u>egg product</u> processing enterprises. It specifies the general principles, documentation requirements, raw and auxiliary material requirements, factory and facilities, production equipment, personnel requirements and management, hygiene management, production process management, quality management and labelling requirements for the processing of egg products.</p> <p>It defines egg products as all kinds of finished products or semi-finished products made from poultry eggs as the main raw material (with more than 50% of egg content) through relevant processing techniques.</p> <p>It requires the plant producing egg products to establish a documented, effective quality management system, based on HACCP principles, which ensures all products are manufactured in conformity with the relevant quality and food safety requirements.</p> <p>It requires a documentation system that follows defined principles, and which clearly shows how the system was developed and controlled throughout its evolution. The resulting records must be maintained and be easily retrievable to provide evidence of compliance with requirements and the effective operation of the egg processing quality management system. Documented procedures shall be developed to specify the controls required for the identification, storage, protection, retrieval, retention periods and disposal of records.</p> <p>It sets down requirements for raw materials and their preservation e.g., eggs must only be used if laid by healthy poultry within 1 week of processing, must be stored in a clean environment at a temperature of 0°C to 25°C.</p> <p>It requires containers and related equipment used for eggs to be cleaned and disinfected after each use and that eggs be sorted before storage.</p> <p>It lays down requirements for the factory and its ancillary facilities in terms of layout, finish, and product flow. Processing equipment must be easy to inspect, dismantled, cleaned, and disinfected.</p> <p>It specifies training and health and hygiene requirements for personnel engaged in management, quality control and as general operatives. Training must be commensurate with the task undertaken.</p> <p>It requires plants to develop a documented and recorded cleaning and sanitation program which addresses the plant environs, the processing rooms, the processing equipment, and the handling and proper disposal of waste.</p> <p>It requires plants to have a documented maintenance system which addresses both structures and equipment which ensures they are in good working condition and to have a pest control program in place.</p> <p>It lays down rules for the management of personal hygiene.</p> <p>It specifies general requirements for the formulation of new products and the need to ensure product quality standards and inspection rules are in place before production commences.</p>	<p>It is equivalent to Regulation 852/2004 in terms of building requirements, layout, room finishes, and product flows, hygiene, cleaning, personnel, health and safety, training etc.</p> <p>It also sets down pre-requisite programmes in line with 852/2004 and the necessity to have controls based on HACCP e.g., documentation, documentation control, records.</p> <p>Please refer to Table 17</p>	<p>The definition for Egg products used in the standard differs from that in EU legislation i.e.</p> <p><i>All kinds of finished products or semi-finished products made from poultry eggs as the main raw material (with more than 50% of egg content) through relevant processing techniques.</i></p>



Chinese National standard GB/T 25009-2010	EU Legislation	Implementing rules, other remarks
<p>It sets down requirements to have dedicated suppliers of raw and auxiliary materials and the need to audit these suppliers and to have dedicated clean storage facilities where the materials are properly identified and handled on a first in first out basis.</p> <p>It specifies the production process and key control links for a variety of different egg products such as whole egg powder, egg yolk powder, protein powder, whole egg liquor, egg yolk liquor, protein liquid, preserved eggs, cooked salted eggs, raw salted eggs, salted egg yolks, salted egg whites and brined eggs.</p> <p>It requires plants to develop a quality manual, which addresses all aspects of production from intake through to processing, storage, and dispatch. The necessity to have a robust inspection and sampling system which ensures control of conforming and non-conforming product on a batch basis.</p> <p>Finished products that have passed the inspection shall be stored in the finished product warehouse by species and batch with correct signage and storage records.</p> <p>Liquid egg products must be stored between 0°C~4°C, and for frozen egg products the temperature must be ≤ -18°C, whereas all kinds of egg powder, salted egg, leather egg, halted egg and salted egg yolk products can be stored at room temperature.</p> <p>It specifies requirements for transport containers and transport temperatures for liquid egg products.</p> <p>It requires the establishment of a customer complaints system for finished product and a product recall mechanism which complies with Food Recall Management Regulations.</p> <p>It sets down rules for records whereby all records must be signed by both the person responsible for the execution and the person in charge and all alterations must be verified. Records shall be true, timely and completed to specification and must be audited by the quality department.</p> <p>It requires a traceability system to be implemented.</p> <p>It requires products be labelled in accordance with the Regulations on Food Labelling. The production batch number should be indicated on the outer packaging by an explicit or coded code to facilitate warehouse management and traceability operations of the finished product.</p>		

The provisions in the following documents (equivalent to EU legislation) become the provisions of this standard:

- GB 2760 Hygienic Standard for the Use of Food Additives
- GB 5749 Hygienic Standard for Drinking Water
- GB 7718 General Rules for Labelling of Prepackaged Foods
- GB 14881 General Hygienic Practice for Food Enterprises
- GB 14930.1 Hygienic standards for detergents for food tools and equipment
- GB 14930.2 Hygienic Standard for Detergents and Disinfectants for Food Tools and Equipment
- Food Recall Management Regulations General Administration of Quality Supervision, Inspection and Quarantine Order [2007] No. 98
- Regulations on Food Labelling General Administration of Quality Supervision, Inspection and Quarantine Decree [2007] No. 102



## 2.11 GB/T 19495.8-2004 - DETECTION OF GENETICALLY MODIFIED PLANTS AND DERIVED PRODUCTS – PROTEIN BASED METHODS.

Chinese National standard GB/T 19495.8-2004	EU Legislation	Implementing rules, other remarks
<p>The assays listed in the appendix are based on existing antibody-based assays. This part of GB/T 19495 applies to methods for the qualitative and quantitative detection of genetically modified products based on the detection of target proteins. This is a laboratory centric document and should be examined by those with knowledge of the specific methods mentioned.</p> <p>The standard lays down definitions for Matrix, Denaturation of proteins, Antibody, Antigen, Clone</p> <p>Cross-reactivity, Monoclonal antibody, Polyclonal antibody, Specificity of an antibody. It defines terminology related to target protein-based assay techniques such as conjugate antibody, Western blotting, ELISA enzyme linked immunosorbent assay, Test kit, Dip stick format.</p> <p>It sets down the principle of the test and the instruments required to carry it out. It lays down the procedures to be followed regarding the sampling, preparations of samples, extraction of proteins and the analysis procedure. It sets down the general principles when conducting the analysis and the presentation of results and the parameters which may affect the results such as Cross-reactivity, Matrix effects and Linearity.</p> <p>It requires the use of qualitative or quantitative PCR assays to validate the test where there is disagreement with the test results, and it stipulates the information required in the test report.</p> <p>It outlines the procedures to be followed for tests such as the “<b>ELISA for CP4 EPSPS protein in transgenic plants and their products</b>” and “<b>Test strip assay for Cry1Ab/Ac protein in transgenic plants and their products</b>”.</p> <p>Tables are provided in the standard on for example procedural flows and dilution of matrices.</p> <p>Finally, it gives examples on the interpretation of results.</p>	<p>There is no direct equivalent food hygiene legislation in EU which lays down rules on the qualitative and quantitative detection of genetically modified products.</p>	



## 2.12 GB/T 34238-2017 REQUIREMENT FOR CLEANING EGGS IN PROCESS AND CIRCULATING.

Chinese National standard GB/T 34238-2017	EU Legislation	Implementing rules, other remarks
<p>This standard applies to places selling clean eggs such as wholesale markets, supermarkets, distribution centres and farmers' markets specialising in eggs or both.</p> <p>It also applies to the logistics of e-commerce for clean eggs.</p> <p>It lays down some general requirements for Factories (~packing centres)</p> <p>It specifies the terminology and definitions, processing, packaging, storage, transport, sales, and traceability requirements of the technical specifications for the processing and distribution of clean eggs.</p> <p>It provides definitions for Fresh eggs and clean eggs.</p> <p>It specifies general requirements for packing centres, the equipment used therein, the production operatives, management, the packaging materials, labelling, storage**and transport equipment which are broadly equivalent to EU legislation.</p> <p>It provides for general requirements at the point of sale regarding storage, maintenance of records and ensuring disposal of non-conforming products.</p> <p>Although, it is stated the standard applies to wholesale markets, supermarkets, distribution centres and farmers' markets specialising in eggs, these terms do not appear in the text. One must assume the term "point of sale" addresses these sales points.</p> <p>Finally, it requires the existence of a Traceability system throughout the processing, transportation, and sales process.</p> <p>** (If the storage period for clean eggs is less than one week, the ambient temperature should be less than 20°C; if the storage period for clean eggs is more than one week, the ambient temperature should be controlled at 0°C to 7°C)</p>	<p>While limited, some of the principles in the standard are broadly in line with EU Regulation 852/2004 e.g., plant and equipment requirements, personnel, training, and management and with EU Regulation 178/2002 regarding traceability.</p> <p>Some of the conditions on transport specified in the PRC standard are dealt with under good manufacturing practices in the EU.</p>	
<p><b>Fresh egg</b> - Eggs in the shell laid by reared birds, within the shelf life</p> <p>Note: e.g. eggs, duck eggs, goose eggs, quail eggs, etc.</p>	<p>EU definitions 598/2008: Eggs means eggs in shell – other than broken, incubated or cooked eggs – that are produced by farmed birds and are fit for direct human consumption or for the preparation of egg products.</p>	



Chinese National standard GB/T 34238-2017	EU Legislation	Implementing rules, other remarks
<p><b>Clean egg</b> - Fresh eggs that are cleaned, decontaminated, coated (or not), inspected, graded (or not) and packed on the surface of the eggshell.</p>	<p>No equivalent.</p>	
<p><b>Storage</b> - Clean eggs should be stored in a hygienic and well-protected warehouse with rodent and insect-proof facilities, and should not be mixed with harmful, odorous, and corrosive items. The product should be placed on a mat and should be no less than 10 cm from the wall and the floor.</p> <p>If the storage period for clean eggs is less than one week, the ambient temperature should be less than 20°C; if the storage period for clean eggs is more than one week, the ambient temperature should be controlled at 0°C to 7°C.</p> <p>Clean egg storage should record the time of entry and batch.</p> <p>Clean eggs shall be discharged according to the principle of "first in, first out".</p>	<p>EU definitions 598/2008: Storage as a special storage condition in accordance with Article 3(1)(6) of Directive 2000/13/EC, an indication advising consumers to keep eggs chilled after purchase</p>	
<p><b>Transport requirements</b></p> <p>In and out of the warehouse and loading and unloading trucks should follow the principle of light loading, light unloading and quickness, without damaging the packaging and without staying in room temperature or high temperature environment.</p> <p>Make a good record of loading and unloading handover such as the list of delivery personnel, information on the product being loaded and unloaded, the temperature inside the compartment and the date of delivery and the place of delivery.</p>	<p>There are no similar requirements in the EU regulation as the conditions specified in the PRC standard are dealt with under good manufacturing practices.</p> <p>However, transport is mentioned in EU Regulation 598/2008 as follows:</p> <p>Cold eggs left out at room temperature may become covered in condensation, facilitating the growth of bacteria on the shell and probably their ingress into the egg. Therefore, eggs should be stored and transported preferably at a constant temperature, and should in general not be refrigerated before sale to the final consumer</p> <p>Class A eggs shall not be treated for preservation or chilled in premises or plants where the temperature is artificially maintained at less than 5 °C.</p> <p>However, eggs which have been kept at a temperature below 5 °C during transport for not more than 24 hours or on retail premises or in annexes thereto for not more than 72 hours shall not be considered as chilled.</p>	



## 2.13 GB2760- 2014 STANDARD FOR FOOD ADDITIVES

Chinese National standard GB2760- 2014	EU Legislation	Implementing rules, other remarks
<p>This standard specifies the principles for application of food additives, the varieties of food additive which are allowed, the scope of application, and the maximum residue levels.</p> <p>It provides definitions for food additives, maximum use level, maximum residue level, processing aid, and Chinese number system.</p> <p>It sets down a set of principles on basic requirements for the use of additives (Appendix A), where and how they can be applied and explains the food category system.</p> <p>Three separate tables are included Appendix A (Food Additives)</p> <p><b>Table A.1.</b> The Permitted Food Additives, the Scope of Use, Maximum Use Level, and the Maximum Residual Level.</p> <p><b>Table A 2.</b> Additives Permitted for Use in Various Kinds of Food in Accordance with GMP.</p> <p><b>Table A 3.</b> Fresh Eggs, Dehydrated egg products and Liquid Egg are excluded from Table A.2.</p> <p>The standard sets down the provisions and principles for the use Food Flavouring Substances in Appendix B.</p> <p>Three separate tables are included under Appendix B (Flavourings)</p> <p><b>Table B.1.</b> List of Foods That are Prohibited to Add Food Flavouring Substances and Flavouring Essence. Fresh Eggs are excluded from this list.</p> <p><b>Table B 2.</b> List of Natural Flavouring Substances Permitted in Foods. 393 substances are listed.</p> <p><b>Table B.3.</b> List of Synthetic Flavouring Substances that are Allowed to be Used in Foods. 1477 substances are listed.</p> <p>The standard sets down the provisions and principles for the use Food Processing Aids in Appendix C.</p>	<p>A comparison with EU legislation is provided in Table 28.</p> <p>A comparison between food categories in the PRC and EU legislation is listed in Table 26 and 27.</p> <p>Some food additives mentioned in the Chinese National Standard are not approved in the EU while some EU approved additives are not mentioned in the Chinese National Standards</p> <p><b>EU food business operators must ensure that only additives approved by Chinese Standards are used in products exported to China.</b></p> <p>A number of maximum limits are set in the PRC legislation under various functions, but none exist in EU legislation. This may have trade implications.</p> <p>There are 13 food categories in PRC legislation and only 2 in EU legislation.</p> <p>A comparison between MRLs in PRC and EU legislation (by additive and food category for Eggs and Egg Products) is outlined under in Table 28.</p> <p>Eggs and egg products as defined in Regulation (EC) No 853/2004 are foods in which the presence of a food colour may not be permitted by virtue of the carry over principle set out in Article 18(1)(a) of Regulation (EC) No 1333/2008</p>	



Chinese National standard GB2760- 2014	EU Legislation	Implementing rules, other remarks
<p>Three separate tables are included under Appendix C (Processing Aids)</p> <p><b>Table C.1.</b> List of the Processing Aids Permitted in Processing of Various Kinds of Foods, and No Restriction of the Residue Level (excluding Enzyme Preparation)                      Thirty-eight processing aids are listed.</p> <p><b>Table C. 2.</b> List of the Processing Aids that Require Clarification of the Functions and Scope of Use (excluding Enzyme preparation)                      Seventy-six processing aids are listed.</p> <p><b>Table C.3.</b> List of Enzyme Preparation for Foods and Their Sources.                      Fifty-four enzyme preparations are listed.</p> <p>Appendix D lists the food additive’s common function while noting that it is not a comprehensive listing and that each food additive usually perform one or multiple functions.</p>	<p>Table 29. lists the food colours which may be used in the EU for the decorative colouring of eggshells from 1 August 2014</p> <p>Table 30 provides a comparison between the functions of food additives in the PRC and EU.</p> <p>Table 31 provides the number of Additives allowed in the EU by their function.</p>	



**Table 26. The food categories listed in standard GB2760- 2014 which apply to eggs and egg products.**

10.0	Eggs and egg products
10.01	Fresh egg
10.02	Processed egg (no change of physical properties)
10.02.01	Sauced egg
10.02.02	Salted egg in wine
10.02.03	Preserved egg
10.02.04	Salted egg
10.02.05	Other processed egg
10.03	Egg products (changed physical properties)
10.03.01	Dehydrated egg product (e.g., Egg powder, egg white or yolk powder)
10.03.02	Heat-clotted egg product (e.g., Yolk cream, preserved egg sausage)
10.03.03	Liquid egg
10.04	Other egg products

**Table 27. The Food categories listed in EU Regulation 1333/2008**

10.1	Unprocessed eggs
10.2	Processed eggs and egg products



**Table 28.**

**Comparison between MRLs in PRC and EU legislation (by additive and food category for Eggs and Egg Products)**

GB2760- 2015				Regulation (EC) 1333/2008		
Additive	Function	Food Category	Max Level (mg/kg)	Additive in EU	Max Level in EU (mg/kg)	Food category
Mineral oil, white (liquid paraffin)	Glazing agent	Fresh egg	<b>5000</b>	Flavouring-oil emulsions used in category 10.2: Processed eggs and egg products.	140mg/kg	
P hydroxy benzoates and its salts (sodium methyl p-hydroxy benzoate, ethyl p-hydroxy benzoate, sodium ethyl p-hydroxy benzoate)	Preservative	Heat-clotted egg product (e.g. Yolk cream, preserved egg sausage)	<b>2</b>		–	
Neotame	Sweeteners	Other egg products	<b>100</b>		–	
Silicon Dioxide	Anticaking agent	Dehydrated egg product (e.g. Egg powder, egg white or yolk powder)	<b>15000</b>		–	
Beta Carotene	Colour	Egg products (changed physical properties) (excluding dehydrated egg product en 10.03.01 and liquid egg in 10.03.03)	<b>1000</b>		–	Not allowed in eggs and egg products as defined in Regulation (EC) No 853/2004
		Other egg products	<b>150</b>		–	

1. The additives may be added individually or in combination. 2. The maximum level is applicable to the sum and the levels are expressed as the free acid. 4. The maximum level is expressed as P<sub>2</sub>O<sub>5</sub>



GB2760- 2015				Regulation (EC) 1333/2008		
Additive	Function	Food Category	Max Level (mg/kg)	Additive in EU	Max Level in EU (mg/kg)	Food category
Phosphoric acid, disodium dihydrogen pyrophosphate, tetrasodium pyrophosphate, calcium dihydrogen phosphate, potassium dihydrogen phosphate, diammonium hydrogen phosphate, dipotassium hydrogen phosphate, calcium hydrogen phosphate (dicalcium orthophosphate), tricalcium orthophosphate (calcium phosphate), tripotassium orthophosphate, trisodium orthophosphate, sodium polyphosphate, sodium tripolyphosphate, sodium dihydrogen phosphate, sodium phosphatedibasic, trisodium monohydrogen diphosphate, potassium polymetaphosphate, calcium acid pyrophosphate		Heat-clotted egg product (e.g. Yolk cream, preserved egg sausage)	<b>5000</b>		10,000	Only liquid egg (white, yolk or whole egg) <sup>1,4</sup>
Nissin	Preservative	Egg products (changed physical properties)	<b>250</b>		6.25	only pasteurised liquid egg (white, yolk or whole egg)
Sorbic acid, potassium sorbate	preservative, antioxidant, stabilizer	Egg products (changed physical properties)	<b>1500</b>		1000	Only liquid egg (white, yolk, or whole egg) <sup>1,2</sup>
Diacetyl tartaric acid ester of mono (di) glycerides (DATEM)	emulsifier, thickener	Other egg products	<b>5000</b>		–	
		Other egg products	<b>5000</b>		–	
Aspartame	Sweetener	Other egg products	<b>1000</b>		–	aspartame/aspartam e-acesulfame salt: 'contains a source of phenylalanine'
Sucrose esters of fatty acid	Emulsifier	Fresh egg	<b>1500</b>		1000	



**Table 29.**  
**The Food colours listed in Annex 11; part B may be used for the decorative colouring of eggshells from 1 August 2014**

E-number	Name	E-number	Name	E-number	Name	E-number	Name
E 100	Curcumin	E 132	Indigotine, Indigo carmine	E 160a	Carotenes	E 172	Iron oxides and hydroxides
E 101	Riboflavins	E 133	Brilliant Blue FCF	E 160b(i)	Annatto bixin	E 173	Aluminium
E 102	Tartrazine	E 140	Chlorophylls and chlorophyllins	E 160b(ii)	Annatto norbixin	E 174	Silver
E 104	Quinoline Yellow	E 141	Copper complexes of chlorophylls, chlorophyllins	E 160c	Paprika extract, capsanthin, capsorubin	E 175	Gold
E 110	Sunset Yellow FCF/Orange Yellow	E 142	Green S	E 160d	Lycopene	E 180	Litholrubine BK
E 120	Carminic acid, Carmine	E 150a	Plain caramel <sup>(1)</sup>	E 160e	Beta-apo-8'-carotenal (C 30)		
E 122	Azorubine, Carmoisine	E 150b	Caustic sulphite caramel	E 161b	Lutein		
E 123	Amaranth	E 150c	Ammonia caramel	E 161g	Canthaxanthin <sup>(*)</sup>		
E 124	Ponceau 4R, Cochineal Red A	E 150d	Sulphite ammonia caramel	E 162	Beetroot Red, betanin		
E 127	Erythrosine	E 151	Brilliant Black PN	E 163	Anthocyanins		
E 129	Allura Red AC	E 153	Vegetable carbon	E 170	Calcium carbonate		
E 131	Patent Blue V	E 155	Brown HT	E 171	Titanium dioxide <sup>(2)</sup>		



**Table 30. Comparison between the functions of food additives in the PRC and EU**

Substances in PRC standards where there is no direct equivalent in EU legislation or which are not considered as food additives in the EU.	Substances in EU legislation where there is no direct equivalent in PRC standards
Bleaching agent	Carriers
Chewing gum base	Acids
Colour retention agent	Emulsifying salts
Enzyme preparation	Firming agents
Flour treatment agent	Foaming agents
Coating agents	Gelling agents
Stabilizer	Glazing agents' (including lubricants)
Thickener	Modified starches
Flavouring substances	Packaging gases
Food processing aid	Propellants
Other	Raising agents
Other functions that cannot be covered by the above functions	
	Sequestrants

**Table 31. Number of Additives in the EU by function**

Colours	41
Sweeteners	21
Additives other than colours and sweeteners	176



## 2.14 GB 2762-2017 - NATIONAL FOOD SAFETY STANDARD FOR MAXIMUM LEVELS OF CONTAMINANTS IN FOODS

Chinese National GB 2762-2017	EU Legislation	Implementing rules, other remarks								
<p>This standard replaces the GB 2762-2012, National Food Safety Standard for Maximum Levels of Contaminants in Foods.</p> <p>This standard sets limits for lead, cadmium, mercury, arsenic, tin, nickel, chromium, nitrite, nitrate, Benzo[a]pyrene, N-nitrosodimethylamine, polychlorinated biphenyl, 3-chloro-1, 2-propanediol in foods.</p> <p>Only egg and egg products will be compared with the relevant EU legal standards.</p> <p>Contaminants in this standard refer to contaminants other than pesticide residue, veterinary drug residue, biotoxin, and radionuclides.</p> <p>Regardless of existence of the contaminant limits, the food producers and processors should take control measures to keep the contaminant content in foods at the minimum level.</p> <p>The standard lists the contaminants that may pose high risks to the public health; the foods with contaminant limits are foods that pose higher impact on consumers 'dietary exposure.</p> <p>Levels of contaminants in foods are calculated based on the edible parts of the food unless otherwise specified.</p> <p>When there are limits set on processed products, the contaminant limits for dried foods are calculated by the dehydration ratio or the concentration ratio of the corresponding fresh foods. The dehydration ratio or the concentration ratio could be determined by analysis of the food, by the information provided by the producer, or by other available data, unless otherwise specified.</p> <p>The standard provides definitions for contaminants, edible parts, and limits.</p> <p>It lays down general principles on the application of the standard and on calculating limits under varying conditions.</p> <p>It defines what is meant by the food category "egg and egg products" as follows:</p> <table data-bbox="123 1129 728 1348"> <tr> <td>Eggs</td> <td>Fresh Eggs</td> </tr> <tr> <td rowspan="5">Egg Products</td> <td>[Thick Gravy cooked eggs</td> </tr> <tr> <td>Salted egg in wine</td> </tr> <tr> <td>Preserved egg</td> </tr> <tr> <td>Salted Egg</td> </tr> <tr> <td>Other egg products]</td> </tr> </table>	Eggs	Fresh Eggs	Egg Products	[Thick Gravy cooked eggs	Salted egg in wine	Preserved egg	Salted Egg	Other egg products]	<p>In the Chinese National Standard limit values are defined for contamination with lead, cadmium and mercury in eggs and egg products while in EU legislation no limits are set.</p> <p>Table 32 indicate the maximum limit, by food category, in mg/kg under Chinese legislation while Table 33 indicates the limits in EU legislation.</p> <p>EU legislation requires member states to control the presence of contaminants in food and adopt a specific sampling strategy Table 34.</p> <p>A comparison between PRC standard 2762-2017 and EU Legislation 2022/931, 2022/932 and 315/93 can be found in Table 35.</p>	<p>The 'ALARA' Principle applies (as low as reasonably achievable).</p> <p>These discrepancies are considered formal rather than substantial and will not affect consumer risk.</p> <p>The Chinese and EU requirements differ for type of contaminants considered. Some contaminants specified on the Chinese Standard are not mentioned in the EU Standards for that specific product, and vice versa. There are also differences in criteria for selecting specific combinations of contaminants or contaminant groups and commodity groups to be controlled as well as the sampling strategy.</p> <p>Two tables highlight the different limits required under PRC and EU legislation.</p>
Eggs	Fresh Eggs									
Egg Products	[Thick Gravy cooked eggs									
	Salted egg in wine									
	Preserved egg									
	Salted Egg									
	Other egg products]									



**Table 32. Contaminant levels in egg and egg products in PRC**

Substance	Food category	Mg/kg
Lead	Egg and egg products (excluding preserved egg, preserved egg sausage)	0.2
	Preserved egg, preserved egg sausage	0.5
Cadmium	Egg and egg products	0.05
Mercury	Egg and egg products	0.05
Arsenic	Food category not listed	-
Tin	Food category not listed	-
Nickel	Food category not listed	-
Chromium	Food category not listed	-
Nitrate	Food category not listed	-
Benzo[a]pyrene	Food category not listed	-
N-Nitrosodimethylamine	Food category not listed	-
Polychlorinated biphenyl	Food category not listed	-
3-chloro-1, 2-propanediol	Food category not listed	-



**Table 33. EU maximum Levels of Contaminants in Foods for eggs and egg products as per Reg. (EC) No 1881/2006**

Substance	Food category	Mg/kg		
Nitrite, Nitrate	Egg and egg products not mentioned.	-		
Lead		-		
Cadmium		-		
Mercury		-		
Dioxins and PCBs	Hen eggs and egg products (6)	Sum of dioxins (WHO-PCDD/F-TEQ)	Sum of dioxins and dioxin-like PCBS (WHOPCDD/F-PCBTEQ)	Sum of PCB28, PCB52, PCB101, PCB138, PCB153 and PCB180 (ICES – 6)
		2,5 pg/g fat (33)	5,0 pg/g fat (33)	40 ng/g fat (33)

**Table 34. EU controls on combination of contaminants or contaminant groups by commodity groups: Reg. (EC) No 2022/931**

Commodity groups	Halogenated persistent organic pollutants	Metals	Mycotoxins	Other contaminants
Fresh hen eggs and other eggs	x	x		x



**Table 35. Comparison between PRC standard 2762-2017 and EU Legislation 2022/931, 2022/932 and 315/93**

GB 2762-2017	E Regulations 2022/931, 2022/932 and 315/93				
<p>Contaminants- Hazardous chemical substance, not intentionally added to food, but brought into such foods in food production (crop growing, animal husbandry and veterinary medicine), processing, packaging, storage, transportation, distribution, and consumption, or introduced a result of environmental contamination. 3</p> <p>Contaminants in this standard refer to contaminants other than pesticide residue, veterinary drug residue, biotoxin, and radionuclides.</p>	<p><b>'Contaminant'</b> means any substance not intentionally added to food which is present in such food as a result of the production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food, or as a result of environmental contamination.</p> <p>Extraneous matter, such as, for example, insect fragments, animal hair, etc, is not covered by this definition.</p>				
<p>Not specified</p>	<p>Minimum control frequency for <b>food placed on the Union market</b></p> <table border="1" data-bbox="954 810 2056 884"> <tr> <td data-bbox="954 810 1301 884">Fresh hen eggs and other eggs</td> <td data-bbox="1301 810 2056 884">Minimum 1 sample per 3 700 tonnes of annual production of eggs</td> </tr> </table> <p>Minimum control frequency per Member State in the control plan for <b>food of animal origin entering the Union</b></p> <table border="1" data-bbox="954 1066 2056 1139"> <tr> <td data-bbox="954 1066 1585 1139">Eggs (includes eggs and egg products from all bird species)</td> <td data-bbox="1585 1066 2056 1139">Minimum 1 % of the imported consignments</td> </tr> </table>	Fresh hen eggs and other eggs	Minimum 1 sample per 3 700 tonnes of annual production of eggs	Eggs (includes eggs and egg products from all bird species)	Minimum 1 % of the imported consignments
Fresh hen eggs and other eggs	Minimum 1 sample per 3 700 tonnes of annual production of eggs				
Eggs (includes eggs and egg products from all bird species)	Minimum 1 % of the imported consignments				



## 2.15 GB 2763-2021 NATIONAL FOOD SAFETY STANDARD MAXIMUM RESIDUE LIMITS FOR PESTICIDES IN FOODS

Chinese National GB 2763-2021	EU Legislation	Implementing rules, other remarks
<p><b>GB 2763-2021</b> lists over 10,000 MRLs of 548 pesticides in several hundred food categories. MRLs have been established for some pesticides that have not been registered in the PRC for use on imported products. The standard's implementation date is September 3, 2021.</p> <p>Entitled "National Food Safety Standard - Maximum Residue Limits for Pesticides in Foods" (GB 2763-2021), this new standard will replace the current standard of the same title (GB2763-2019). Compared with GB 2763-2019, the updated standard contains an additional 81 pesticides and 2,985 new MRLs. While there may be additional changes in the final, this standard consolidates the previous version of the standard and the updates that have been made since it was last issued in 2019.</p> <p>The food categories and measuring parts (Appendix A) is used to define the applicable scope of the pesticide maximum residue limits, which applies only to this standard. If a maximum residue limit for a pesticide is applicable for a certain food category, the MRL will be applicable to all food commodities in this category, except otherwise specified.</p> <p>The "List of Pesticides Exempted from Developing MRLs for Food" (refer to the Appendix B) is used to define the scope of pesticides that are exempted from developing Food MRLs.</p> <p>The standard provides definition for Maximum Residue Limit MRL, Extraneous Maximum Residue Limit (EMRL) and Acceptable Daily Intake (ADI).</p> <p>It provides tables which specify the MRL by food category and by substance.</p> <p>It replaces <b>GB 2763-2019</b> where the following amendments were added or revised.</p> <ul style="list-style-type: none"> <li>- Added 81 pesticides, including 2,4-DB.</li> <li>- Added 2985 MLRs.</li> <li>- Added 7 standards for test methods, revised 2 standards for testing methods, and removed 2 standards for testing methods.</li> <li>- Added ADIs for 66 pesticides including 2,4-DB.</li> <li>- Revised the Chinese common name of Fosthiazate and English common names of 3 pesticides including 2,4-D dimethyl amine salt.</li> </ul>	<p>A comparison between MRLs in PRC and EU legislation by active principle is outlined in Table 36.</p> <ul style="list-style-type: none"> <li>- 24 Substances have higher limits in the EU and therefore may have trade implications.</li> <li>- 11 substances have no MRL in the EU and will possibly require testing if they are licensed for use in the EU.</li> <li>- 3 substances are not listed in EU regulations.</li> </ul>	<p>In all other cases EU testing programme should satisfy Chinese requirements.</p>



- Revised 194 MLRs previously promulgated.
- Revised the residue definition of 12 pesticides including Fluazifop.
- Revised the ADIs for 4 pesticides including Fenpropimorph.
- Temporary MRLs for 17 pesticides including MCPA (sodium) have been changed into formal ones and formal MRLs for 3 pesticides including Cycloxydim have been changed into temporary ones.
- Revised the Nominative Reference Annex A by adding 20 food names, including whole wheatmeal, and revising 15 food names.

**Table 36. Comparative table between PRC and EU MRL limits for Pesticides**

PRC STANDARD GB 2763-2021						EU REGULATION 396/2005 as amended		
Section	Function	Element	MRL/PRC	Test Method	Note	MRL/EU	Method	Note/Key
4.4	Herbicide	(2,4-D and 2,4-D Na)	0.01 mg/kg *			0.01 mg/kg *		Red Font is used where the EU level is higher than the PRC level.
4.112	Insecticide	Acetamiprid	0.01mg/kg	GB/T 20772		0.05 mg/kg*		
4.215	Fungicide	Acibenzolar-S-Methyl	0.02 mg/kg*			0.02 mg/kg*		
4.539	Insecticide	Aldrin	0.1 mg/kg		Aldrin and Dieldrin (Aldrin and dieldrin combined expressed as dieldrin)	0.02 mg/kg*		Blue Font is used where the EU level is lower that the PRC level
4.284	Herbicide	Aminopyralid	0.01 mg/kg			0.01 mg/kg		Grey Highlighting where no limits exist in the EU
4.324	Fungicide	Azoxystrobin	0.01mg/kg*			0.05 mg/kg*		
4.328	Herbicide	Bentazone	0.01mg/kg*			0.05 mg/kg*		
4.23	Fungicide	Benzovindiflupyr	0.01mg/kg *			0.01 mg/kg		
4.266	Acaracide	Bifenazate	0.01mg/kg*			0.01 mg/kg		
4.268	Fungicide	Bitertanol	0.01 mg/kg	GB/T 23211		0.05 mg/kg*		
4.265	Fungicide	Bixafen	0.05 mg/kg*			0.05 mg/kg*		
4.115	Fungicide	Boscalid	0.02 mg/kg	GB/T 22979		0.01 mg/kg		
4.124	Fungicide	Carbendazim	0.05 mg/kg	GB/T 20772		0.05 mg/kg		



PRC STANDARD GB 2763-2021						EU REGULATION 396/2005 as amended		
Section	Function	Element	MRL/PRC	Test Method	Note	MRL/EU	Method	Note/Key
4.107	Insecticide	Carbosulfan	0.05 mg/kg	GB/T 19650		0.01 mg/kg *		
4.291	Insecticide	Chlorantraniliprole	0.2 mg/kg*			0.2 mg/kg*		
4.545	Insecticide	Chlordane	0.02 mg/kg			0.05 mg/kg*		
4.11	Plant growth regulator	Chlormequat	0.1 mg/kg *			0.05 mg/kg*		
4.121	Insecticide	Chlorpyrifos	0.01 mg/kg	GB/T 20772		None		
4.225	Insecticide	Chlorpyrifos-methyl	0.01 mg/kg	GB/T 20772		0.01 mg/kg		
4.422	Acaricide	Clofentezine	0.05 mg/kg*			0.02 mg/kg*		
4.358	Insecticide	Clothianidin	0.01 mg/kg	GB 23200.39		0.01 mg/kg		
4.467	Insecticide	Cyantraniliprole	0.15mg/kg*			0.15 mg/kg		
4.357	Herbicide	Cycloxydim	0.15mg/kg*			0.05 mg/kg		
4.176	Insecticide	Cyfluthrin and beta-Cyfluthrin	0.01mg/kg*			0.02 mg/kg*		
4.300	Insecticide	Cypermethrin and beta-cypermethrin)	0.01 mg/kg	GB/T 5009.162	Cypermethrin (cypermethrin including other mixtures of constituent isomers (sum of isomers))	0.05 mg/kg*		
4.323	Fungicide	Cyprodinil	0.01mg/kg*			0.02 mg/kg		
4.334	Insecticide	Cyromazine	0.3mg/kg*			0.02 mg/kg*		
4.540	Insecticide	DDT	0.1 mg/kg			0.05 mg/kg*		
4.141	Insecticide	Diazinon	0.02 mg/kg*			0.05 mg/kg*		
4.309	Herbicide	Dicamba	0.01mg/kg*			0.05 mg/kg*		



PRC STANDARD GB 2763-2021						EU REGULATION 396/2005 as amended		
Section	Function	Element	MRL/PRC	Test Method	Note	MRL/EU	Method	Note/Key
4.93	Herbicide	Dichlobenil	0.03 mg/kg*	GB/T 20772		None		
4.96	Insecticide	Dichlorvos	0.01mg/kg*			None		
4.541	Insecticide	Dieldrin	0.1 mg/kg			0.006 mg/kg		
4.31	Fungicide	Difenoconazole	0.03mg/kg	GB23200.4 9.		0.05 mg/kg		
4.75	Insecticide	Diflubenzuron	0.05 mg/kg *			0.01 mg/kg		
4.363	Plant Growth Regulator	Dimethipin	0.01 mg/kg	GB/T 20771		None		
4.262	Insecticide	Dimethoate	0.05 mg/kg	GB/T 20772		None		
4.147	Insecticide	Dinotefuran	0.02 mg/kg			0.02 mg/kg		
4.94	Herbicide	Diquat	0.05 mg/kg *			0.05 mg/kg *		
4.274	Insecticide	Endosulfan	0.03 mg/kg		Endosulfan (sum of alpha- and beta-isomers and endosulfan-sulphate expresses as endosulfan)	0.05 mg/kg *		
4.494	Plant Growth Regulator	Ethephon	0.01 mg/kg	GB 23200.82		0.05 mg/kg *		
4.318	Insecticide	Etofenprox	0.01mg/kg*			0.015 mg/kg		
4.133	Fungicide	Famozadone	0.01mg/kg*			None		
4.312	Fungicide	Fenamidone	0.01mg/kg*			0.01 mg/kg		
4.38	Insecticide	Fenamiphos	0.01mg/kg*			0.01 mg/kg		
4.24	Acaricide	Fenbutatin oxide)	0.05 mg/kg	SN/T 4558		0.05 mg/kg		
4.397	Insecticide	Fenitrothion	0.05 mg/kg	GB/T 5009.161		None		



PRC STANDARD GB 2763-2021						EU REGULATION 396/2005 as amended		
Section	Function	Element	MRL/PRC	Test Method	Note	MRL/EU	Method	Note/Key
4.237	<b>Insecticide</b>	Fenpropathrin	<b>0.01 mg/kg</b>	SN/T 2233		<b>None</b>		
4.102	<b>Fungicide</b>	Fenpropimorph	<b>0.01mg/kg</b>	GB/T 23210		<b>0.01mg/kg</b>		
4.350	<b>Insecticide</b>	Fenvalerate and esfenvalerate	<b>0.01mg/kg*</b>	GB/T 5009.162	Fenvalerate and Esfenvalerate (Sum of RR & SS isomers)	<b>0.02 mg/kg*</b>		
4.161	<b>Insecticide</b>	Fipronil	<b>0.02 mg/kg</b>			<b>None</b>		
4.182	<b>Anthelmintic</b>	Fluensulfone	<b>0.01mg/kg*</b>			<b>Not Listed</b>		
4.61	<b>Herbicide</b>	Flumioxazin	<b>0.02 mg/kg</b>	GB23200.3 1		<b>0.02 mg/kg</b>		
4.159	<b>Fungicide</b>	Fluopicolide	<b>0.01mg/kg*</b>			<b>0.01 mg/kg</b>		
4.160	<b>Fungicide</b>	Fluopyram	<b>2.0 mg/kg</b>			<b>2.0 mg/kg</b>		
4.156	<b>Insecticide</b>	Flupyradifurone	<b>0.7mg/kg*</b>			<b>0.01 mg/kg</b>		
4.168	<b>Fungicide</b>	Flusilazole	<b>0.1mg/kg</b>	GB/T 20772		<b>0.02 mg/kg</b>		
4.144	<b>Fungicide</b>	Flutriafol	<b>0.01mg/kg*</b>			<b>0.01 mg/kg</b>		
4.66	<b>Herbicide</b>	Glufosinate- ammonium	<b>0.05 mg/kg *</b>			<b>0.01mg/kg</b>		
4.544	<b>Insecticide</b>	HCH	<b>0.1 mg/kg</b>			<b>0.02 mg/kg*</b>		
4.547	<b>Insecticide</b>	Heptachlor	<b>0.05 mg/kg</b>		Heptachlor (sum of heptachlor and heptachlor epoxide expressed as heptachlor)	<b>0.02 mg/kg*</b>		
4.366	<b>Acaricide</b>	Hexythiazox	<b>0.05 mg/kg*</b>			<b>0.02 mg/kg</b>		
4.243	<b>Herbicide</b>	Imazamox	<b>0.01mg/kg*</b>			<b>0.01 mg/kg</b>		
4.314	<b>Herbicide</b>	Imazapyr	<b>0.01mg/kg*</b>			<b>0.01 mg/kg</b>		
4.315	<b>Herbicide</b>	Imazethapyr	<b>0.01mg/kg*</b>			<b>Not Listed</b>		



PRC STANDARD GB 2763-2021						EU REGULATION 396/2005 as amended		
Section	Function	Element	MRL/PRC	Test Method	Note	MRL/EU	Method	Note/Key
4.44	Herbicide	Imidacloprid	0.02 mg/kg*			0.05 mg/kg		
4.505	Fungicide	Isofetamid	0.01mg/kg*			0.01 mg/kg		
4.52	Fungicide	Isopyrazam	0.01mg/kg*			0.01 mg/kg		
4.543	Insecticide	Lindane	0.1 mg/kg		Lindane (Gamma-isomer of hexachlorocyclohexane (HCH	0.1 mg/kg		
4.6	Herbicide	MCPA (sodium)	0.05 mg/kg		MCPA and MCPB (MCPA, MCPB including their salts, esters and conjugates expressed as MCPA)	0.05 mg/kg		
4.458	Herbicide	Mesotrione	0.01 mg/kg	SN/T 4045	Mesotrione (Sum of mesotrione and MNBA (4-methylsulfonyl2-nitro benzoic acid), expressed as mesotrione)	0.01 mg/kg		
4.218	Insecticide	Methamidophos	0.01 mg/kg			0.01 mg/kg		
4.398	Insecticide	Methidathion	0.02 mg/kg	GB/T 20772		0.02 mg/kg		
4.329	Insecticide	Methomyl	0.02mg/kg*		Methomyl and Thiodicarb (sum of methomyl and thiodicarb expressed as methomyl	0.02mg/kg*		
4.28	Fungicide	Metrafenone	0.01mg/kg*			0.01 mg/kg		
4.44	Insecticide	Imidacloprid	0.02 mg/kg*			0.05 mg/kg		
4.245	Fungicide	Myclobutanil	0.01 mg/kg	GB 23200.46		0.01 mg/kg		
4.187	Insecticide	Novaluron	0.1mg/kg	SN/T 2540		0.1 mg/kg		
4.132	Fungicide	Oxadixyl	0.01mg/kg*		Oxadiargyl	0.01 mg/kg		



PRC STANDARD GB 2763-2021						EU REGULATION 396/2005 as amended		
Section	Function	Element	MRL/PRC	Test Method	Note	MRL/EU	Method	Note/Key
4.399	Insecticide	Oxamyl	0.02mg/kg*			0.01 mg/kg		
4.183	Fungicide	Oxathiapiprolin	0.01mg/kg*			0.01 mg/kg		
4.19	Herbicide	Paraquat	0.005 mg/kg *			None		
4.437	Fungicide	Penconazole	0.05 mg/kg*			0.05 mg/kg*		
4.136	Herbicide	Pendimethalin	0.01mg/kg	GB 23200.69		0.05 mg/kg*		
4.48	Fungicide	Penthiopyrad	0.03 mg/kg*			0.01 mg/kg		
4.298	Insecticide	Permethrin	0.1 mg/kg	GB/T 5009.162		None		
4.219	Insecticide	Phorate	0.05 mg/kg	GB/T 23210	Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate)	0.05 mg/kg		
4.535	Herbicide	Pinoxaden	0.02 mg/kg*			None		
4.231	Insecticide	Pirimiphos-methyl	0.01 mg/kg	GB/T 20772		0.05 mg/kg*		
4.311	Fungicide	Prochloraz and prochloraz-manganese chloride complex)	0.01mg/kg*		Prochloraz (sum of prochloraz and its metabolites containing the 2,4,6-Trichlorophenol moiety expressed as prochloraz)	0.01mg/kg*		
4.63	Insecticide	Profenofos	0.02 mg/kg			0.05 mg/kg*		
4.414	Fungicide	Propamocarb and propamocarb hydrochloride	0.01 mg/kg	GB/T 20772		0.01 mg/kg		
4.354	Acaricide	Propargite	0.01mg/kg	GB/T 23211		0.01 mg/kg		
4.55	Fungicide	Propiconazole	0.01 mg/kg			0.01 mg/kg		



PRC STANDARD GB 2763-2021						EU REGULATION 396/2005 as amended		
Section	Function	Element	MRL/PRC	Test Method	Note	MRL/EU	Method	Note/Key
4.51	Fungicide	Pyraclostrobin	0.05 mg/kg *			0.05 mg/kg *		
4.261	Fungicide	Quinoxifen	0.01 mg/kg			0.02 mg/kg*		
4.436	Fungicide	Quintozene	0.03 mg/kg			0.01mg/kg*		
4.33	Herbicide	Saflufenacil	0.01 mg/kg *			0.01 mg/kg		
4.126	Insecticide	Spinosad	0.01mg/kg*			0.2 mg/kg*		
4.281	Acaracide	Spiromesifen	0.02 mg/kg*			None		
4.28	Insecticide	Spirotetramat	0.01mg/kg*			0.01 mg/kg		
4.165	Insecticide	Sulfoxaflor	0.01mg/kg*			0.1 mg/kg		
4.72	Insecticide	Tebufenozide	0.02 mg/kg			0.02 mg/kg		
4.154	Insecticide	Teflubenzuron	0.01mg/kg*			0.01 mg/kg		
4.426	Insecticide	Terbufos	0.01mg/kg*			None		
4.364	Fungicide	Thiabendazole	0.01mg/kg			2.0 mg/kg		
4.359	Insecticide	Thiacloprid	0.02mg/kg*			0.01mg/kg*		
4.360	Insecticide	Thiamethoxam	0.01 mg/kg	GB 23200.39		0.01 mg/kg		
4.386	Fungicide	Triadimefon	0.01mg/kg*		Triadimefon and triadimenol (sum of triadimefon and triadimenol)	0.01mg/kg*		
4.384	Fungicide	Triadimenol	0.01mg/kg*			0.01 mg/kg		

\* The MRL is the temporary limit.

26 Substances have higher limits in the EU and therefore trade may require testing for these substances to PRC limits. In all other cases EU testing programme should satisfy Chinese requirements.

14 substances have no MRL in the EU. These may not be used/licensed within the EU.

1 substance is not listed in EU regulations.



## 2.16 22921-2013 REPLACEMENT AS NOTIFIED TO WTO IN SPS 1151- NATIONAL FOOD SAFETY STANDARD FOR PATHOGENIC MICROORGANISM LIMITS IN FOOD

Chinese National 22921-2013	EU Legislation	Implementing rules, other remarks
<p>The Standard replaces GB 29921-2013 National Food Safety Standard Pathogenic Microorganism Limits in Food.</p> <p>Compared with GB 29921-2013, the major changes contained in the standard are as below:</p> <p>The name of the Standard is revised.</p> <p>The description of “scope” is revised.</p> <p>The description of “applicable principles” is revised.</p> <p>Requirements on limits of pathogenic microorganism in dairy products and foods for special dietary uses are added.</p> <p>Part of content in “Table 1 Standard of Pathogenic Microorganism Limits in Pre-packaged Foods” is revised.</p> <p>Appendix A Description of Food Categories (Names) is added.</p> <p>The Standard specifies indexes, limit requirements and test methods for pathogenic microorganism in pre-packaged foods.</p> <p>It applies to pre-packaged foods other than foods subject to commercial sterility requirements.</p> <p>It lays down the principles of application as Food producers, processors and operators shall take control measures to reduce the level of pathogenic microorganism content in foods and possibility of resulting in risks as possible, no matter whether limits of pathogenic microorganism are provided or not.</p> <p>Food categories in Table 1 and Appendix A - Description of Food Categories (Names) are used to define the applicable scope of limits of pathogenic microorganism.</p> <p>Sampling plans are subject to provisions in GB 4789.1. n is the number of products shall be collected in a same batch of products, m the acceptable limit value for pathogenic microorganism index (grade III sampling plan) or the highest safety limit level (grade II sampling), M the highest safety limit value for pathogenic microorganism index.</p>	<p>EU legislation defines food safety criteria that are applicable to products placed on the market and process hygiene criteria for the monitoring of food processing. In the Chinese National standard such a distinction is not made.</p> <p>The levels for salmonella in EU Regulation 2073/2005 apply to a broad range of products while those in this standard only apply to pre-packaged foods.</p> <p>The levels for egg products are identical.</p> <p>Table 37 and 38 indicate the microbiological requirements for the PRC and EU.</p>	



**Table 37. Pathogenic Microorganism Limits in Prepackaged Food GB 29921-2013**

Food Category	Index of Pathogenic organism	Sampling Plan and Limit(expressed with /25g or 24ml unless otherwise specified)				Test method	Note
		n	c	m	M		
Instant egg products*	Salmonella	5	0	0	-	GB 4789.4	

\*Instant egg products are defined as Processed eggs and Other egg products



**Table 38. Microbiological limits in EU Regulation 2073/2005**

Food category	Micro-organisms/their toxins, metabolites	Sampling		Limits		Analytical reference method (3)	Stage where the criterion applies
		n	c	m	M		
Egg products, excluding products where the manufacturing process or the composition of the product will eliminate the salmonella risk	<b>Salmonella</b>	<b>5</b>	<b>0</b>	<b>Not detected in 25g</b>		EN ISO 6579-1	Products placed on the market during their shelf-life
Ready-to-eat foods containing raw egg, excluding products where the manufacturing process or the composition of the product will eliminate the salmonella risk	<b>Salmonella</b>	<b>5</b>	<b>0</b>	<b>Not detected in 25g or ml</b>		EN ISO 6579-1	Products placed on the market during their shelf-life
Food category	Micro-organisms/their toxins, metabolites	Sampling		Limits		Analytical reference method (3)	Stage where the criterion applies
		n	c	m	M		
Egg Products	Enterobacteriaceae	<b>5</b>	<b>2</b>	10 cfu/g or ml	100 cfu/g or ml	EN ISO 21528-2	End of the manufacturing process

Checks on the efficiency of the heat treatment and prevention of recontamination:

Enterobacteriaceae in egg products :

- satisfactory, if all the values observed are  $\leq m$ ,
- acceptable, if a maximum of c/n values are between m and M, and the rest of the values observed are  $\leq m$ ,
- unsatisfactory, if one or more of the values observed are  $> M$  or more than c/n values are between m and M.



## 2.17 GB 14880- 2012 NATIONAL FOOD SAFETY STANDARD FOR THE USE OF NUTRITIONAL FORTIFICATION SUBSTANCES IN FOODS

Chinese National GB 14880- 2012	EU Legislation	Implementing rules, other remarks
<p>This Standard specifies the fundamental purposes of nutritional fortification in foods, the requirements of using nutritional fortification substances, the selection requirements for fortifiable food categories and application requirements for nutritional fortification substances.</p> <p>It is applicable to the application of nutritional fortification substances in foods, unless otherwise stated in national laws and regulations and/or standards.</p> <p>It provides definitions for Nutritional fortification substances, Nutrient, Other nutritional ingredients, and Foods for special diets.</p> <p>It sets down the fundamental purposes of nutritional fortification, the requirements of using nutritional fortification substances, the selection requirements of fortification food categories and the rules applicable to nutritional fortification substances.</p> <p>It provides for the application amounts for a range of substances by food category in Table A.1. Eggs or egg derived products do not appear on this table.</p> <p>It lists the Origins of Allowable Nutritional Fortification Substance in appendix B and it specifies the nutritional fortification substances and compound origin allowable for foods for special diets and other nutritional ingredients that are only allowed to be used in partial foods for special dietary uses, as well as their dosage in appendix C.</p> <p>None of the levels specified in Appendix A appears to apply to eggs or egg products.</p> <p>Appendix D links food category numbers with the food category name. This is the only appendix where reference is made to eggs or egg product categories as set out in table 39.</p>	<p><b>Regulation EC) No 1925/2006</b> of the European Parliament and the Council sets down rules for the addition of vitamins and minerals and of certain other substances to foods</p>	<p>EU legislation is more specific in content, lists permissible vitamins, Vitamin formulations and mineral substances and minerals that may be added to food.</p> <p>The consolidated text provided a list of substances whose use in foods is prohibited, restricted or under Community scrutiny.</p> <p>It is envisaged there will not be Trade implications</p>



**Table 39: Food categories in PRC legislation which refer to eggs and egg products.**

Food Category Number	Food category name
10.03.01	Dehydrated egg products (such as albumen powder, dried egg yolk and albumen flakes)
10.03.02	Thermo-setting egg products (such as yolk cheese, preserved egg sausage)
10.03.03	Frozen egg products (such as ice eggs)
10.03.04	Liquid eggs
10.04	Other egg products



## 2.18 GB 31650-2019)- NATIONAL FOOD SAFETY STANDARD ON MAXIMUM RESIDUE LIMITS FOR VETERINARY DRUGS IN FOODS, WHICH WILL TAKE EFFECT ON APRIL 1, 2020

Chinese National GB 31650-2019	EU Legislation	Implementing rules, other remarks
<p>This standard stipulates the maximum residue limits of 104 varieties (categories) of veterinary drugs, such as Albendazole, in animal-derived food, specifies 154 drugs, such as acetic acid, which are permitted for use in food-producing animals but there is no need to set residue limits, and provides 9 veterinary medicines, such as Chlorpromazine, which are permitted for use in the treatment of the animal diseases but shall not be detected in animal derived food.</p> <p>This standard is applicable to the animal-derived food related to maximum residue limits.</p> <p>Egg refers to an in-shell egg produced by a domesticated female bird.</p>	<p>A comparison between the maximum residue levels set down in Chinese and EU legislation is provided in Table 40.</p>	<p>Relevant substances where MRLs exist in Chinese legislation but don't exist in EU legislation are indicated in red font.</p> <p>These 5 substances may have trade implications.</p>

**Table 40. Comparison between PRC and EU MRLs for veterinary drugs**

Substance	GB 31650-2019 MRL µg/kg	Commission Regulation 37/2010 EU MRL µg /kg	Note
Amoxicillin (prohibited during egg producing period)		Amoxicillin (prohibited during egg producing period)	MRL set in PRC legislation which will/may require additional testing for trade purposes are highlighted in red font.
Amprolium	400	No MRL	
Arsanilic acid/Roxarsone	500	No MRL	
Avilamycin (prohibited during egg producing period)		Avilamycin (prohibited during egg producing period)	
Bacitracin	500	No MRL	



Substance	GB 31650-2019 MRL µg/kg	Commission Regulation 37/2010 EU MRL µg /kg	Note
Chlortetracycline		200	
Colistin	300	300	
Danofloxacin (prohibited during egg producing period)		Danofloxacin (prohibited during egg producing period)	
Deltamethrin	30	No MRL	
Difloxacin (prohibited during egg producing period)		Difloxacin (prohibited during egg producing period)	
Doxycycline prohibited during egg producing period)		Doxycycline prohibited during egg producing period)	
Enrofloxacin prohibited during egg producing period)		Enrofloxacin prohibited during egg producing period)	
Fenbanel/ Fenbendazole/ Oxfendazole	1300 (only for fenbendazole)	No MRL	
Florfenicol prohibited during egg producing period)		Florfenicol prohibited during egg producing period)	
Flubendazole	400	400	
Flumequine prohibited during egg producing period)		Flumequine prohibited during egg producing period)	
Kanamycin prohibited during egg producing period)		Kanamycin prohibited during egg producing period)	
Lincomycin	50	50	
Neomycin	500	500	
Oxacillin prohibited during egg producing period)		Oxacillin prohibited during egg producing period)	
Oxolinic acid prohibited during egg producing period)		Oxolinic acid prohibited during egg producing period)	



Substance	GB 31650-2019 MRL µg/kg	Commission Regulation 37/2010 EU MRL µg /kg	Note
Piperazine	2000	2000	
Spectinomycin	2000	Spectinomycin prohibited during egg producing period)	
Sulfadimidine prohibited during egg producing period)		Not Listed	
Sulfonamides prohibited during egg producing period)		Sulfonamides prohibited during egg producing period)	
Thiamphenicol prohibited during egg producing period)		Thiamphenicol prohibited during egg producing period)	
Tilmicosin prohibited during egg producing period)		Tilmicosin prohibited during egg producing period)	
Toltrazuril prohibited during egg producing period)		Toltrazuril prohibited during egg producing period)	
Trimethoprim prohibited during egg producing period)		Trimethoprim prohibited during egg producing period)	
Tylosin	300	200	
Tylvalosin	200	Tylvalosin prohibited during egg producing period)	

5 substances where there are no MRLs set in EU legislation



**Table 41 Residue Sampling in the EU for Eggs**

Substance Family	Substance	Eggs
A6	Regulation 470/2009 laying down Community procedures for the establishment of residue limits of pharmacologically active substances in foodstuffs of animal origin and Commission Regulation (EU) 2019/1871 establishing reference points for action (RPAs) for certain non-allowed pharmacologically active substances present in food of animal origin	✓
B1	Antibacterial substances, including sulphonamides, quinolones	✓
B2 b	Anticoccidials	✓
B2 c	Carbamates and pyrethroids	✓
B2 f	Other pharmacologically active substances	✓
B3 a	Organochlorine compounds	✓
B3 b	Organophosphorus compounds	✓

