

Legislation – Food Packaging - China

An amended Food Safety Law, with significantly expanded scope, took effect on 1st October 2015. This includes improved regulatory supervision of special foods, including health foods, formula foods for special medical purposes and baby and infant formulas, improved supervision of online food transactions and imported food, strengthened enforcement and improved supervision of food safety. Chapter 6 of the amended law refers to GB 9685, the national food safety standard on uses of additives in food contact materials and products. It specifies the basic requirements for manufacturers and importers of food contact materials and products, including testing methods, traceability and product information. It contains a positive list of 1,316 substances, and provides new total specific migration limits, along with revised terms and definitions; 204 substances on the positive list have had restrictions on their range and amount of use extended.

The organisation CIRS (Chemical Inspection & Regulation Service) has provided some **details** of the Chinese food contact materials and articles regulation system. China's National Health and Family Planning Commission has revised, consolidated and published 53 mandatory standards for food contact materials and additives (in Chinese). The most important are GB 4806.1-2016 General Safety Requirements for Food Contact Materials and Articles, and GB 9685-2016 Standard for the Uses of Additives in Food Contact Materials and Articles, which came into force in October 2017. GB 4806.1 is a new general requirements standard which applies to all FCM, specifying the basic requirements, restrictions, compliance principle, test methods, traceability and product information. FCMs shall not release their constituents into food at levels harmful to human health or change the food composition, taste and odour. It refers to other GB standards, including those for good manufacturing practice and migration testing (GB 31603), as well as for specific materials. GB 4806.1 includes a revised definition of "unintentionally added" and introduces a new requirement for a declaration of compliance and labelling. It also sets a migration limit of 0.01 mg/kg food (10 ppb) for unapproved substances (substances not listed in the corresponding GB standards).

GB 9685-2016 is an update of GB 9685-2008, and includes 1294 approved food contact additives. It specifies the principles for uses of additives in FCMs, approved additive categories, application scope, maximum permitted level, specific migration limit or maximum residue limit, total specific migration limit and other restrictions in FCMs. [It is not possible to formulate a packaging ink based solely on the additives listed in GB 9685-2016; hence, until the new ink specific standard is published \(see below\), if compliance is required, then it must be based on the no migration principle \(below 0.01 mg/kg as specified in GB 4806.1\).](#)

Other important standards are listed in the table.

China's principal food contact materials safety standards:

Standard	Subject matter
GB 4806.1	General safety requirements for food contact materials and additives
GB 4806.6	Plastic resins for food contact use
GB 4806.7	Plastic materials and articles for food contact use
GB 4806.8	Paper and board materials for food contact use
GB 4806.9	Metallic materials and articles for food contact use
GB 4806.10	Paints and coatings for food contact use



GB 5009.156	General principles of pre-treatment methods for migration testing of food contact materials and products
GB 31604.1	General principles for migration test of food contact materials and articles
GB 31604.49	Determination of arsenic, cadmium, chromium, lead and determination of arsenic cadmium, chromium, nickel, lead, antimony and zinc in food contact materials and articles
GB 9685	Use of additives for food contact materials and products

[The Chinese National Health Commission \(NHC\) has published five draft national food safety standards relating to the manufacture and use of food contact materials, covering composite materials and articles, printing inks, paper and paperboard, bamboo and wood materials and articles, and detergents.](#)

The draft standard on printing inks applies to printing inks in direct contact with food, or those in indirect contact if the components may transfer to food. It also includes the varnish used together with the inks. The standard does not contain a positive list of substances permitted for use in printing inks but sets out different requirements for the raw materials (considered as base materials or additives) depending on whether the ink is in direct or indirect contact with food. For example, additives used in printing inks in direct contact with food must be food additives permitted in China under GB 2760, whereas for indirect contact the printing ink additives must be food contact material additives in GB 9685. The standard sets specifications on overall migration, potassium permanganate consumption, heavy metals (lead, mercury, cadmium, chromium and arsenic) and the migration level of primary aromatic amines from printing ink layers.

The draft standard for paper and paperboard will revise and replace the current standard GB 4806.8-2016. Compared with the current version, it removes the potassium permanganate consumption and heavy metal limits, and adds residual limits on 1,3-dichloro-2-propanol and 3-chloro-1,2-propanediol. Other specifications on lead, arsenic, fluorescent substances and formaldehyde remain unchanged and apply to paper and paperboard except when in contact with food that should be peeled, shelled or washed before eating, cooking or processing.

The draft standard on composite materials and articles applies to food contact materials and articles of two or more layers made from different or the same materials by adhesion, hot melting or other means. The food contact substances used in each layer must comply with the corresponding GB standard (e.g. the paper layer must comply with GB 4806.8). There are additional specifications on heavy metals, residual solvent and migration level of primary aromatic amines.

The draft standard on food contact use bamboo and wood materials and articles covers the use of bamboo, wood or cork as raw materials, including cork stoppers and plant fibreboard containers. Some physicochemical specifications have been revised as compared with the current 2016 version.



The revised draft standard on detergents will replace the existing standard GB 14930.1-2015. Detergents are placed into two groups: Class A are used directly for washing food, and Class B are used to wash food contact utensils, equipment, containers and food packaging materials. There is a new positive list of 115 substances permitted for use in Class A detergents; in addition, various salts and acids of certain listed substances, conventional food ingredients, and substances listed in the food additive standard GB 2760 are also permitted. When Class B detergents use raw materials not in the positive list, the manufacturer must conduct a safety assessment to ensure that the residual or migration level of these substances do not endanger human health – however, preservatives and colourants used in Class B detergents must be included in the positive list.

The Chemical Inspection & Regulation Service (CIRS) has published a short comparison of differences in food contact migration testing between Europe and China. The Chinese Standard GB 31604.1-2015 General rules for migration test of food contact materials and articles is similar to the requirements specified by the Plastics Regulation (EU) No. 10/2011, but small differences could result in confusion. The Chinese Standard applies to all types of food contact materials and articles that directly or indirectly come into contact with food, including plastic, rubber, metal and paper used as food packaging, containers, kitchen utensils, or in production process food contact facilities, as well as coatings, inks and adhesives used in food packaging, containers, and kitchen utensils. The EU Plastics Regulation applies to materials and articles consisting exclusively of plastic, and plastic multilayer materials and articles held together by adhesives, whether coated or printed or not, as well as plastic layers in multimaterial multilayer materials and articles. Polyphenylene oxide (Tenax®) is the simulant for dried solid food according to the Plastics Regulation, whereas the Chinese Standard has no simulant for dried solid food, and the migration test may be exempted due to the lower migration risk. The Chinese Standard also specifies that when the food contact material is already in contact with food, the migration shall be tested in food, and that the surface area to volume of the food or food simulant should be calculated based on the most demanding use condition. GB31604.1-2015 gives details on how to select the appropriate food simulant, how to conduct screening tests, conditions for migration testing and calculation algorithms to be used.

The information contained herein is based on data believed to be up-to-date and correct at the time writing. It is provided to our customers in order that they are able to comply with all applicable health and safety laws, regulations, and orders. In particular, customers are under an obligation to carry out a risk assessment under relevant Good Manufacturing Practices (GMP) in line with legislation and as a result take adequate measures to protect consumers.