



**British Glass represents the UK Glass Industry and related suppliers across various sectors, including container, flat, glass, domestic, crystal and scientific.**

## **Good Manufacturing Practice, Food Contact & Migrations**

**Regulation 1935/2004 of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EC.**

**Commission Regulation 2023/2006 of 22 December 2006 on good manufacturing practice for materials and articles intended to come into contact with food.**

British Glass recognises the need to ensure that only safe food contact materials and Articles are placed on the market. This document provides guidance to producers and consumers on how the general requirements of above regulations apply to glass packaging.

### **Regulation 1935/2004**

The requirements of this regulation applying to glass packaging are:

1. Food contact materials and articles must not transfer their constituents to food in quantities that could endanger human health or cause unacceptable changes in the composition of the food or a deterioration in taste, texture, aroma or appearance (Article 3).
2. Food contact materials must be manufactured in compliance with good manufacturing practice (Article 3).
3. Additional requirements (“specific measures”) may be adopted by the EU for a list of packaging materials laid down in Annex I to the regulation. These could include limits for migration, hygiene rules, compliance rules, etc. Glass is listed in the annex as being a material which may be covered by specific measures. So far, no such specific measures have been adopted for glass packaging (Article 5).
4. Food contact materials and articles which are not already in contact with food when sold should be accompanied by the words “for food contact” or a specific indication as to their use. An appropriate symbol may be used; Annex II to the regulations shows the “wineglass & fork” symbol. If necessary, instructions for the safe and appropriate use of the material and article must also be given, and the name or trade name and address or registered office of the manufacturer must be included (Article 15).

5. Food contact materials and articles must be traceable at all stages of manufacture, processing and distribution to enable them to be controlled and if necessary, recalled (Article 17).
6. Food contact materials and articles for which specific measures have been adopted are required to be accompanied by a written declaration stating that they comply with the rules applicable to them (Article 16). Since there are no specific measures currently applicable to glass, there is no requirement to provide a certificate of compliance. However, manufacturers have decided to provide such a declaration on a voluntary basis if required.

## Supporting Information

- Glass is amongst the most inert of common substances and has been used satisfactorily as packaging for many years, the glass matrix being amongst the safest and highest-quality materials available for the packaging of drinks, foodstuffs, medical products and other materials which are consumed by humans.
- According to the American Packaging Institute, it is the only packaging material rated as “GRAS” – “generally regarded as safe”, by the U. S. Food & Drugs Administration. See: <http://www.gpi.org/learn-about-glass/>. This is derived from the citations in the US Federal Register.
- Major investigations into the migration characteristics of glass containers have been undertaken within the past 20 years:
  - In 1990, British Glass carried out a comprehensive test programme in anticipation of future EC Directives on materials & articles in contact with food, bringing with them a potential need to show that the migration from glass containers into the contents does not constitute a health hazard. The results showed that, even after the extremely severe treatment to which they were subjected, the migration from all of the glass containers tested was comparable with, and in most cases much less than, values for the same elements found in the domestic water supply. Hence the migration from the container into the contents would not constitute a health hazard. The report containing full results was published in *Glass Technology*, vol.31, no.3, June 1990.
  - The Food Standards Agency (FSA) commissioned Glass Technology Services in 2000 to carry out a major study on the migration from glass articles in contact with food, simulating wherever possible the real conditions of use. Due to the passage of time from the earlier work, and with changes in recycling rates, it was felt necessary to update the data. The work lasted 2 years, and the outcome was summarised as follows:

*“Glass has under accelerated migration testing conditions been found to be a material of high chemical inertness. However, certain types of decorated glassware<sup>1</sup> have, under acidic conditions, been shown to release elements that may be of interest, if such articles were used in*

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<sup>1</sup> These were not glass containers, but tableware in the form of decorated tumblers.

*contact with food. The testing has shown that, despite development in production practices and increases in recycling rates, elemental migration is still low from commonly used glass compositions.”*

A comprehensive report (Science & Research, project A03029: Investigation of the significant factors in elemental migration from glass in contact with food) was published, and is available from the FSA web site:

<http://www.food.gov.uk/science/research/researchinfo/contaminantsresearch/contactmaterials/a03prog/a03projlist/a03029proj/>

- Pallet labels and sales documentation are used to convey the food contact and supplier contact details as required by the regulation and detailed in (4) above.
- Pallet label numbering forms the core of the traceability system required by the regulations. In certain cases, this may be supplemented by additional marking of the containers by inkjet or laser. This system is becoming much more common, but it should be regarded as complementary to and not a replacement of the pallet label. Full details, including an explanation as to why it is not possible to trace individual pallets of containers back to individual deliveries of raw materials, are given in “Industrial Guidelines on Traceability of Materials & Articles for Food Contact”, Annex II, part I, page 16. This section was written by FEVE, with the whole document being issued by CPIV in January 2006.

### **Commission Regulation 2023/2006**

This regulation lays down the rules on good manufacturing practice for materials and articles in contact with food. In effect, it amplifies the requirement to use good manufacturing practice, as required by Regulation 1935/2004. It covers all sectors and all stages of manufacture, processing and distribution of food contact materials and articles (but not the production of the starting substances used in the manufacture of food contact materials and articles).

The requirements of this regulation applying to glass packaging are:

1. Implementation of quality assurance and quality control systems (defined as shown below (Articles 5 & 6).
2. Establishment and maintenance of appropriate documentation (paper or electronic) relevant to compliance and safety of the finished article; such documentation to be made available to the “competent authorities” on request (Article 7).
3. Implementation of any material-specific rules on good manufacturing practice detailed in Annex 1 to the regulation. Currently, there are no such rules for glass (Article 2).

## Definitions

The following definitions are taken from Article 3 of the Regulation:

‘good manufacturing practice (GMP)’ means those aspects of quality assurance which ensure that materials and articles are consistently produced and controlled to ensure conformity with the rules applicable to them and with the quality standards appropriate to their intended use by not endangering human health or causing an unacceptable change in the composition of the food or causing a deterioration in the organoleptic characteristics thereof;

‘quality assurance system’ means the total sum of the organised and documented arrangements made with the purpose of ensuring that materials and articles are of the quality required to ensure conformity with the rules applicable to them and the quality standards necessary for their intended use;

‘quality control system’ means the systematic application of measures established within the quality assurance system that ensure compliance of starting materials and intermediate and finished materials and articles with the specification determined in the quality assurance system.

## Supporting Information

- All companies have quality systems with third-party accreditation to BS EN ISO 9001. These systems cover control of relevant starting materials and hygiene-related matters. In this context, it should be stated that it is not necessary to consider glassmaking raw materials on from the standpoint of hygiene, due to the high temperature (in excess of 1450°C) of the melting process. A separate position paper on destruction of pathogens during glass melting is available. Hot and cold-end coating materials are approved for food contact use. Hot end coating is applied to containers which have just left the forming machine, and cold end coating is usually applied to containers whose temperature is in excess of 70°C.
- All companies carry out testing for specified heavy metals content under the Packaging (Essential Requirements) Regulations 2003 as amended<sup>2</sup>. While this is intended as a control measure to minimise the leaching of heavy metals into landfill, it has the secondary effect of controlling heavy metals content of the glass.
- Many companies implement HACCP systems or other risk-assessment systems as a preventative approach to food safety.
- Many companies operate hygiene policies and systems as part of their manufacturing process.
- British Glass participated in the production of the document “Guideline No.18 Safe Packaging of Food & Drink in Glass Containers: Guidelines for Good Manufacturing Practice”, 1998, ISBN 0 905942 11 6, published by the Campden & Chorleywood Food Research Association. References in this document to glass manufacturing reflect the good manufacturing practices followed in the glass container factories.

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<sup>2</sup> SI 2003 No. 1941 as amended by SI 2004 No. 1188, implementing Directive 94/62/EC as amended by Decision 2001/171/EC, further amended by Decision 2006/340/EC