

# PAPER AND CARDBOARD

## 1. Scope

- This section refers to paper and cardboard, hereafter called 'paper' below, manufactured from undyed or whitened cellulose base natural fibres, including recycled cellulose fibres from recovered recyclable paper and cardboard. Artificial fibres from regenerated cellulose can also be used in mixture with natural fibres. The paper can be white, undyed, coloured or be printed on the side which is not in contact with the food. Furthermore, the paper can contain synthetic fibres such as polyethylene fibres and functional additives. Materials and objects in stiff paper made up exclusively of paper and/or cardboard or composed of two or more layers of fibres each of which is made up exclusively of paper and/or cardboard and as a finished product are intended to be in contact with food products are also concerned.
- Coated papers or those which have undergone a surface treatment such as polymeric bonding for organic or mineral pigments are also concerned.
- Papers coated with wax or paraffin which are mentioned in the "Coated Paper and Cardboard" sheet, and composites which include, for example, a plastic film or aluminium sheet mentioned in the "Composites" sheet are not concerned here.
- This sheet does not deal with papers and cardboards which are so-called "active" with regard to foodstuffs and which are the subject of specific regulations. However, the medium shall comply with the principles of inertia as defined in this sheet.
- This sheet does not deal with materials and objects which are not intended, under normal and expected term of use, to be in contact with foodstuffs, for example: tablecloths, aprons, sets of placemats, dish cloths. However the sheet does cover household kitchen paper (until specific European directives have been published ) and table napkins are concerned.

## 2. Restriction of use for materials

Recycled materials which do not have the same guarantees as the new materials for which they could substituted themselves, cannot be used in contact with foods according to CSHPF [The Upper Council for Public Hygiene in France] notification dated 07.09.93 on recycled materials (published in the BOCCRF [Official Bulletin for Competition, Consumption and Fraud Repression] dated 31/12/93). For paper-cardboard materials, recycled cellulose fibres can be used if they meet the requirements defined in the Guide to good practice for manufacturing of papers and cardboards and materials transformed in paper and cardboard which are intended to be in contact with foodstuffs.

### **3. Definitions of performance criteria for food contact**

#### **3.1. Texts to be used**

- Texts relating to paper collected in brochure No.1227 written by the Directorate of the Official Journals of the French Republic.
- CSHPF Notification dated 13/10/98 (amended 12/05/99) about the use of fluorescent bleaching agents in papers intended for food use.
- Guide to good practices for manufacturing papers and cardboards and materials transformed in paper and cardboard intended to be in contact with foodstuffs, approved on 09/09/97 by the Food and Nutrition department of the CSHPF.
- CSHPF Notification of 7/11/95 concerning inks and lacquers used for printing packaging intended to be in contact with foodstuffs.
- Order of 2<sup>nd</sup> January, 2003 relating to materials and objects in plastic put or intended to be in contact with foodstuffs, food and drink products, transposition of directive 2002/72/CE for the composition of synthetic fibres.
- Order of 2<sup>nd</sup> April 2003 relating to the use of some epoxidic derivatives in materials and objects put or intended to be in contact with foodstuffs, transposition of directive 2002/16/CE for constituents of papers containing epoxidic derivatives.

#### **3.2. Criteria to be used:**

##### **3.2.1. Composition criteria**

Please consult the composition criteria mentioned in the guide to good practices.

The criteria of use for the adjuvants used and specified in the mentioned regulations, when they exist, will be applied (maximum dose, specific tests).

When the paper is printed, please consult the notification mentioned above for allowed pigments and colorants, for solvents and purity criteria. The printed side must not be in contact with the food.

3.2.2.**Purity criteria:**

Purity requirements	Dry foods	Wet or fatty foods	Cooking	Hot filtering
Systematic inspection				
Transfer of antimicrobial constituents	X	X	X	X
Organoleptic inertia	X	X	X	X
Pentachlorophenol (PCP) content	X	X	X	X
Polychlorobiphenyl (PCB) content	X	X	X	X
Content of extractable metal (Pb, Cd, Hg, Cr <sup>VI</sup> ) content		X	X	X
Hot extraction				X

Frozen foods are considered as dry foods if they are not frozen or defrosted in their packaging; otherwise they are considered as wet and fatty foods.

Purity requirements Inspection depending on additives	Dry foods	Wet or fatty foods	Cooking	Hot filtering
Additives with formaldehyde, glyoxal, fluorine base: dosing or migration of additives	X	X	Not used	
Authorised optical blueing agents: maximum solidity on discharge or dosing of optical blueing agents		X	Not used	
In the absence of intentional processing by optical bleaching agents (for recycled papers): maximum fastness.		X	Recycled fibres not used	
Colouring agents: maximum fastness to bleeding only for papers which have been deliberately coloured, or which appear to be coloured.		X	Colouring agents: generally not used	Not used

When recycled fibres are used, the free formaldehyde content will be systematically measured.

#### **4. Acceptability limits**

- Transfer of antimicrobial constituents: No inhibition zone should be observed with *Bacillus subtilis* and *Aspergillus niger* strains.
- Organoleptic inertia: checking of the absence of alteration of food taste and smell of the food according to the criteria of the method used:
- PCP content not detected at the threshold of 0.1 mg/kg of paper;
- PCB content ♦ 2 mg/kg of paper;
- Content in metals extractable with water:
  - Pb ♦ 3 mg/kg of paper
  - Cd ♦ 0.5 mg/kg of paper
  - Hg ♦ 0.3 mg/kg of paper
  - Cr<sup>VI</sup> ♦ 0.25 mg/kg of paper
- Fastness to bleeding colorants: a grade of 5 shall be obtained according to a scale between 1 and 5 during fastness to bleeding test..
- Fluorescent blueing agents (optical blueing agents):
  - If admissible optical bleaching agents are added: a grade of 5 shall be obtained for the fastness to bleeding test or TEL (Theoretical Exposure Level) less than or equal to 50 µg/day/person;
  - If there is no intentional treatment by optical blueing agents, a grade of 5 shall be obtained for the maximum fastness for fastness to bleeding test.
- Migration of additives possibly entering into the composition of the material:
  - \* Formaldehyde ♦ 1 mg/dm<sup>2</sup> ;
  - \* Glyoxal ♦ 1.5 mg/dm<sup>2</sup> ;
  - \* Other adjuvants: the contents should not exceed the maximum doses of use given in the Guide to good practices .
- Hot extraction: dry residue ♦ 10 mg/dm<sup>2</sup> or 10 mg/g of paper.

## **5. Analyses.**

- Test methods to be used:
  - Absence of transfer of antimicrobial constituents: EN 1104;
  - Organoleptic inertia (atypical flavour): EN 1230-2;
  - Pentachlorophenol: EN/ISO 15320;
  - Polychlorobiphenyls: EN/ISO 15318;
  - Extractable metals: ENV 12 497 (Hg) and ENV 12 498 (Pb, Cr, Cd);
  - Formaldehyde: EN 1541;
  - Glyoxal: in the absence of the normalized method, methods such as BfR are used;
  - Fluorine: in the absence of a normalised method, a validated method is used, for example, Schöniger combustion and ionometric dosage;
  - Fastness to bleeding of colorants test: EN 646;
  - Fastness to bleeding of bleaching agents test: EN 648;
  - Preparation of an extract with cold water (except for cooking or hot filtering papers): EN 645;
  - Preparation of an extract with cold water (hot filtering papers): EN 647;
  - Dosage of soluble material in water: EN 920.

**SUMMARY TABLE**

		Purity requirements	Acceptability limits	Analysis methods
Type of contact	Dry foods	Transfer of antimicrobial agents	Absence of inhibition zone	EN 1104
		Organoleptic inertia	Absence of alteration in taste or smell of foods	EN 1230-2
		PCP content	≤ 0.1 mg/kg of paper	EN/ISO 15320
		PCB content	≤ 2 mg/kg of paper	EN/ISO 15318
		Dosing of additive based on Formaldehyde, glyoxal or others.	Formaldehyde ≤ 1 mg/dm <sup>2</sup> Glyoxal ≤ 1.5 mg/dm <sup>2</sup> Others: maximum doses of use conform to the Guide to Good Practices	Formaldehyde: EN 1541 Glyoxal: no normalised method
	Wet or fatty foods	Transfer of antimicrobial agents	Absence of inhibition zone	EN 1104
		Organoleptic inertia	Absence of alteration in taste or smell of foods	<i>EN 1230-2</i>
		PCP content	≤ 0.1 mg/kg of paper	<i>EN/ISO 15320</i>
		PCB content	≤ 2 mg/kg of paper	EN/ISO 15318
		Dosing of additive based on Formaldehyde, glyoxal or others.	Formaldehyde ≤ 1 mg/dm <sup>2</sup> Glyoxal ≤ 1.5 mg/dm <sup>2</sup> Others: maximum doses of use conform to the Guide to Good Practices	Formaldehyde: EN 1541 Glyoxal: no normalised method
		Extractable metal content	Pb ≤ 3 mg/kg of paper Cd ≤ 0.5 mg/kg of paper Hg ≤ 0.3 mg/kg of paper Cr <sup>VI</sup> ≤ 0.25 mg/kg of paper	ENV 12 497 (Hg) ENV 12 498 (Pb, Cr, Cd)
		Checking of fastness to bleeding test of optical bleaching agents	<ul style="list-style-type: none"> <li>If these authorized optical bleaching agents are added: a grade of 5 shall be obtained or TEL ≤ 50 □g/day/person,</li> <li>If there is no intentional treatment by optical bleaching agents: a grade of 5 shall be obtained</li> </ul>	EN 648 or dosing EN 648
	Migration of colouring agents	A grade of 5 shall be obtained	EN 646	
	Hot filtering	Transfer of antimicrobial constituents	Absence of inhibition zone	EN 1104
		Organoleptic inertia	Absence of alteration in food taste or smell	EN 1230-2
		PCP content	≤ 0.1 mg/kg of paper	<i>EN/ISO 15320</i>
		PCB content	≤ 2 mg/kg of paper	EN/ISO 15318
		Extractable metal content	Pb ≤ 3 mg/kg of paper Cd ≤ 0.5 mg/kg of paper Hg ≤ 0.3 mg/kg of paper Cr <sup>VI</sup> ≤ 0.25 mg/kg of paper	ENV 12 497 (Hg) ENV 12 498 (Pb, Cr, Cd)
	Cooking	Hot extraction	≤ 10 mg/dm <sup>2</sup> or 10 mg/g paper	EN 920
		Transfer of antimicrobial constituents	Absence of inhibition zone	EN 1104
Organoleptic inertia		Absence of alteration in food taste or smell	EN 1230-2	
PCP content		≤ 0.1 mg/kg of paper	<i>EN/ISO 15320</i>	
PCB content		≤ 2 mg/kg of paper	EN/ISO 15318	
	Extractable metal content	Pb ≤ 3 mg/kg of paper Cd ≤ 0.5 mg/kg of paper Hg ≤ 0.3 mg/kg of paper Cr <sup>VI</sup> ≤ 0.25 mg/kg of paper	ENV 12 497 (Hg) ENV 12 498 (Pb, Cr, Cd)	