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China Announces Standards for Resins for Food Contact Plastic Materials and Articles as WTO SPS Notification 1016

Report Categories:
FAIRS Subject Report

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Report Highlights:
On November 19, 2015, China notified the WTO of the National Food Safety Standard of Resins for Food Contact Plastic Materials and Articles, issued by the National Health and Family Planning Commission (NHFPC) as SPS/N/CHN/1016. This standard applies to the resins or resin blends for the manufacture of food contact plastic materials and articles. This standard also applies to the resins or resin blends for the manufacture of thermo plastic elastomer materials and articles intended to contact with food. The deadline for submission of final comments to China is January 18, 2016. The proposed date of entry is yet to be determined. Comments can be sent to China's SPS Enquiry Point at sps@aqsiq.gov.cn. The following report contains an unofficial translation of this draft measure.

General Information
BEGIN TRANSLATION

Resins for Food Contact Plastic Materials and Articles

Preface

This standard replaces the relevant contents of GB 16331-1996 "Health Standards of Nylon 6 Resin for Food Packaging Materials", GB 9692-1988 "Health Standards of Polyvinyl Chloride Resin for Food Packaging", GB 9693-1988 "Health Standards of Polypropylene Resin for Food Packaging", GB 9691-1988 "Health Standards of Polyethylene Resin for Food Packaging", GB 4803-1994 "Health Standards of Polyvinyl Chloride Resin for Food Containers and Packaging Materials", GB 15204-1994 "Health Standards of Vinylidene Chloride-Vinyl Chloride Copolymer Resin for Food Containers and Packaging Materials", GB 13115-1991 "Health Standards of Unsaturated Polyester Resin and Its Glass Fiber Reinforced Plastics for Food Containers and Packaging Materials", GB 13114-1991 "Health Standards of Polyethylene Glycol Terephthalate Resin for Food Containers and Packaging Materials", GB 13116-1991 "Health Standard of Polycarbonate Resin for Food Containers and Packaging Materials", and "107 Varieties of Resins Permitted for Use in Food Packaging Materials (the Announcement No. 23/2011 of the former Ministry of Health).

Compared with the above standards or announcement, this standard has the following changes:

- Changed the standard name;
- Changed the scope of the standard;
- Added the requirements of raw materials;
- Added the basic requirements;
- Changed the indexes of evaporated residue items;
- Changed the simulacrums and test conditions for migration test;
- Added the requirements for label identification;
- Unified the name of the relevant chemicals

National Food Safety Standard Resins for Food Contact Plastic Materials and Articles

1 Scope

This standard applies to various types of resins and resin blends for the production of food contact plastic molded parts.

This standard also applies to the thermoplastic elastomer resins and their blends.

2 Terms and Definitions

2.1 Resin (Polymer)

The long chain macromolecular substances synthesized by addition polymerization, condensation polymerization, microbial fermentation polymerization and other polymerization reactions and the natural macromolecular substances produced by chemical modification, excluding the natural macromolecular substances that were not chemically modified, with the low molecular weight monomers and other starting materials as the main raw materials.

2.2 Resin Blend (Polymer Blend)

The macroscopically uniform and continuous solid polymer materials mixed with two or more polymers of the same or different chemical structure and physical status formed by physical or chemical means, and each polymer can be used as the final material and the main structural component or phase of the molded product, also known as polymer alloy.

2.3 Prepolymers

The polymer intermediates between the monomer and polymer (resin) with relatively low molecular weight.

3 General requirements

The food contact plastic resin should meet the requirements of the "National Standards for Food Safety – General Safety Requirements of Food Contact Materials and Their Products".

4 Technical Requirements

4.1 Raw Material Requirements

4.1.1 The quality specifications of the food contact plastic resins, monomers and other starting materials should be able to ensure that the plastic molded products shall not cause harm to the human health under normal and expected conditions of use.

4.1.2 The varieties of food contact resins should comply with the relevant requirements of Appendix A.

4.2 Sensory Requirements

The sensory requirements shall be in accordance with the provisions specified in Table 1.

Table 1 Sensory Requirements

Items	Requirements
Sense	Normal color without deteriorated smell, odor, dirt and the like.
Soak	The soaking solution resulted from migration test should be free of color, turbidity, precipitation, deteriorated smell and other sensory degraded properties.

4.3 Physical and Chemical Indexes

Physical and chemical indexes should comply with Table 2.

Table 2 Physical and Chemical Indexes

Items	Index	Test method
Overall migration/(mg/dm^2) ≤	10[a]	GB 31604.8
Consumption of potassium permanganate /(mg/kg) Distilled water (60°C, 2h) ≤	12	GB 31604.2
Heavy metals (with lead as example)/(mg/kg) 4%(v/v) Acetic acid (60°C, 2 h) ≤	1.2	GB 31604.9
Discoloration test [b]	Negative	GB 31604.7
[a] For the plastic materials and their products that contact the infant foods, the results should be converted into mg/kg according to the surface area to volume ratio actually used, and the limit is ≤60mg/kg. [b] Only applicable to the products with colorant added.		

4.4 Additives

The additives used in the food contact resin should comply with the provisions of GB 9685.

5 Others

5.1 Migration test

5.1.1 The food contact plastic resins should be made into plastic molded products (or sheet, sample) for migration test based on the actual processing conditions, and the migration test conditions and method selection, sample pre-treatment, result presentation and the like should be implemented according to the provisions of GB 31604.1 GB 5009.156.

5.1.2 The migration test of food contact thermoplastic elastomer should be in accordance with the provisions of the "National Standards for Food Safety, Food Contact Rubber Materials and Their Products".

5.2 Label Identification

5.2.1 The label identification should meet the requirements of the "National Standards for Food Safety, General Safety Requirements for Food Contact Materials and Products", should identify the materials in the product label, instruction manual or accompanying documents in accordance with the resin categories in the Appendix, and should identify the main polymer components for the polymer blends.

5.2.2 The various sections of the supply chain should ensure the safety information transfer, ensure the traceability of the relevant information for the use of hazardous substances and restricted substances.

Appendix A Name List of plastic resins permitted for use

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
1		Polyethylene (ethylene homo-polymer)	PE					
2	25038-36-2, 25053-53-6, 25087-34-7, 25103-74-6, 25213-02-9, 25608-26-8, 25702-94-7, 25750-82-7, 25750-84-9, 24937-78-8, 25895-46-9, 26061-90-5, 26221-73-8, 26337-35-9,	A polymer of ethylene with one or more of the following monomers: 1-butene, propylene, 5-ethidene-2-norbornene, methacrylate, 1-hexene, acrylate, methyl acrylic epoxy, 1-octene, vinyl acetate, carbon monoxide, maleic anhydride, methacrylate, butyl acrylate, ethyl acrylate (with ethylene accounted for the largest mass fraction), zinc acetate, sodium hydroxide, potassium hydroxide	PE	3 (hexylene); 15 (octylene); 12 (vinyl acetate); 25 (zinc acetate, with zinc as example) 6	0.05 mg/6 dm^2 (5-ethidene-2-norbornene, the ratio of contact area and weight of food not less than 2 dm^2/kg); 0.02 mg/6 dm^2 (methacrylate epoxy methyl)	30 (with maleic acid as example); 6 (with acrylate as example); 6 (with methacrylate as example)	3;22;23	

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
	26375-31-5, 26376-80-7, 28064-24-6, 28208-80-2, 28516-43-0, 31069-12-2, 106177-14-4, 37433-35-5, 52255-42-2, 60785-11-7, 61843-70-7, 61843-71-8, 63625-36-5, 107137-84-8, 64652-60-4, 86286-09-1,							

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
	108388-93-8, 85023-55-8, 85244-45-7, 114571-44-7,88450-35-5,9006-26-2,106343-08-2,9010-77-9,9010-79-1,9010-86-0,9019-29-8,93228-27-4							
3	24937-78-8	Ethylene-vinyl acetate copolymer	EVA	12 (vinyl acetate)				
4	26221-27-2	Ethylene-vinyl alcohol copolymer	EVOH	12 (vinyl acetate)				It can't be used in the foods with ethanol content higher than

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
								8%
5		Polypropylene (propylene homopolymer)	PP					
6	25722-45-6, 107001-49-0, 25895-47-0, 29160-13-2, 9010-79-1	Propylene polymers monomer with a one or more of the following: maleic anhydride, ethylene, 1-butene, other α-olefins, containing 5-ethydene-norbornene as modified monomer, with propylene accounted for the largest mass fraction	PP		0.05 mg/6 dm^2 (5-ethydene-2-norbornylene)	30	3	For the residue, the ratio between contact area and weight of food shall not be less than 2 dm^2/kg
7	9003-28-5	poly(1-butene)	PB-1					
8	25213-96-1	4-methyl-1-amylene and ethylene polymer	PMP	0.05 (4-methyl-1-amylene)				
9	9002-89-5	Vinyl alcohol copolymer (polyvinyl alcohol)	PVA or PVOH	12 (vinyl acetate)				It can be used only to contact the lipid and dry solid-state food with low moisture content, and the temperature for use shall be lower than

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
								100°C.
10		Styrene homopolymer and butadiene copolymer	PS	ND (1,3-butadiene, DL=0.02mg/kg)	Styrene <0.5%; ethyl benzene <0.3%			
11	25038-32-8,9003-55-8	A polymer for styrene with one of the following monomers: 2-methy-l,3-butadiene, 1,3 butadiene	PS	ND (isoprene, DL=0.020mg/kg);ND (1,3-bytadiene, DL=0.02mg/kg)	1 (isoprene); styrene < 0.5%			
12		Acrylonitrile-butadiene-styrene	ABS	ND (with acrylonitrile as example, DL=0.01mg/kg); ND (1,3-butadiene as example, DL=0.02mg/kg)	1 (acrylonitrile)			
13	9010-94-0	Copolymer of methyl methacrylate with 1,3-butadiene, styrene and acrylonitrile	ABS	ND (1,3-butadiene, DL=0.020mg/kg); ND (with acrylonitrile as example, DL=0.01mg/kg)	1 (acrylonitrile); 1 (1,3-butadoene); 0.5% (styrene)	6	23	
14		Acrylonitrile-styrene copolymer	AS	ND (with acrylonitrile as example, DL=0.01mg/kg)	1 (acrylonitrile); 0.5%(styrene); 0.20% (styrene, resin molding board)			
15	27012-62-0	Polymer of methyl acrylate with 1,3-bytadiene and acrylonitrile	PAN	ND (with acrylonitrile as example, DL=0.01mg/kg);ND (1,3-butadiene, DL=0.02mg/kg)	1 (1,3-butadiene); 1 (acrylonitrile)	6	22	
16	26936-	Polymer of methacrylate	PAAM			6 (with	22;23	

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
	24-3	with methyl methacrylate and methyl acrylate				methacrylate as example); 6 (with methyl acrylate as example)		
17	127104-68-1	Polymer of butyl methacrylate with ethylene, methyl methacrylate and 1-propylene	PMMA			6	23	
18	127573-73-3	Polymer of butyl acrylate with butyl methacrylate, methyl acrylate-2-(dimethyl amino) ethyl ester and methyl methacrylate	PMMA	0.02 (with ethyl (dimethyl amino) methacrylate as example)		6 (with acrylate as example); 6 (with methyl acrylate as example)	22;23	
19	25133-97-5	Copolymer of methyl acrylate, ethyl acrylate, methyl methacrylate	PMMA			6 (with acrylate as example); 6 (with methyl acrylate as example)	22;23	
20	25608-33-7	Polymer of methyl acrylate with methyl methacrylate	PMMA			6	23	
21	26222-42-4	Polymer of ethyl methacrylate (dimethyl amino) with methyl acrylate	PMMA	0.02 (with ethyl methacrylate (dimethyl amino) as example)		6	23	
22	26572-	Polymer of ethyl	PMMA			6 (with	22;23	

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
	20-3	methacrylate with methyl acrylate				acrylate as example); 6 (with methacrylate as example)		
23	26809-51-8	Polymer of methyl methacrylate with styrene and maleic anhydride	PMMA			30 (with maleic acid as example); 6 (with methacrylate as example)	3; 23	
24	28262-63-7	Polymer of methacrylate with butyl methacrylate and methyl methacrylate	PMMA			6	23	
25	394249-05-9	Polymer of butyl methacrylate with hydroxyethyl methacrylate, methyl methacrylate and meth-acrylamide	PMMA	ND (meth-acrylamide, DL=0.02mg/kg)		6	23	
26	67874-31-1	Polymer of butyl methacrylate with methyl methacrylate and hydroxypropyl methacrylate	PMMA			6	23	
27	9010-88-2	Copolymer of methyl methacrylate with ethyl acrylate	PMMA			6 (with acrylate as example); 6 (with methacrylate as example)	22; 23	

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
28	9011-14-7	Polymethyl methacrylate	PMMA			6	23	
29		Polyvinyl chloride	PVC	ND (vinyl chloride, DL=0.01mg/kg)	1 (vinyl chloride)			
30		Copolymer of vinylidene chloride with vinyl chloride	PVDC	ND (1,1-dichlorethylene , DL=0.05mg/kg) ND (chloroethylene, DL=0.01mg/kg)	1 (chloroethylene); 5 (1,1-dichlorethylene)			
31	24968-80-7	Polymer of acrylate methyl ester with 1,1-dichlorethylene and acrylonitrile	PVDC	ND (1,1-dichloroethylene, DL=0.05mg/kg); ND (with acrylonitrile as example, DL=0.01mg/kg)	5 (1,1-dichlorethylene); 1 (acrylonitrile)	6	22	
32	25038-72-6	Polymer of 1,1-dichloroethylene with methyl acrylate	PVDC	ND (1,1-dichloroethylene, DL=0.05mg/kg)	5 (1,1-dichlorethylene)	6	22	
33	26655-00-5	Polymer of 1,1,1,2,2,3,3-heptafluoride-3-[(vinyl tri-fluoride) oxygen] propane with tetra-fluorethylene	PFA	0.05 (tetrafluoroethylene)				
34	31784-04-0	Polymer of ethyl pentafluoride with tetrafluoroethylene	PFA	0.05 (tetrafluoroethylene)				
35	68258-85-5	Copolymer of 3,3,4,4,5,5,6,6,6-nonafluoroethylene-1-hexylene, butylethylene, tetrafluoroethylene	ETFE	0.05 (tetrafluoroethylene)				

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
36	25067-11-2	Copolymer of perfluorinated ethylene-propylene resin; Tetrafluoroethylene-hexafluoropropylene	FEP	0.05 (tetrafluoroethylene);0.01 (hexafluoropropylene)				
37	9002-84-0	polytetrafluoetylene (tetrafluoroethylene homopolymer)	PTFE	0.05 (tetrafluoroethylene)				The temperature for use shall not exceed 250^{o}C
38	25231-38-3, 9002-81-7	Polyformaldehyde	POM			15	15	The temperature for use shall not exceed 121^{o}C and above.
39	24969-26-4, 24969–25–3	Polymer of 1,3-dioxolane and 1,3,5-trioxane	POM	5 (trioxane); 5 (1,3-dioxolane)	1 (1,4-bis (2,3-epoxy-propoxy) butane, based on epoxy group)			The temperature for use shall not exceed 121^{o}C and above.
40	25214-85-1	Polymer of 1,3-dioxepane and 1,3,5-trioxane	POM	5 (trioxymethylene)	0.05 mg/6 dm2 (1,3- dioxepane)	15	15	The temperature for use shall not exceed 121^{o}C and above.
41	25054-06-2	Polymer of cyclohexanone and formaldehyde	POM			15	15	When it is used for paints and

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
								ink, it can't be used to contact the food with alcohol or lipid.
42	25134-01-4	Poly-oxo- (2,6-dimethyl-1,4-phenylene) Resin	PPE	0.05 (2,6-dimethylphenol)				
43	58295-79-7	Polymers of 2,6-dimethylphenol and 2,3,6-trimethyl phenol	PPE	0.05 (2,6-dimethylphenol)				
44	29658-26-2	Polymer of 4,4'-difluoro-di-benzophenone and resorcinol	PEEK	0.05 (4,4'-difluoro-di-benzophenone); 0.6 (hydroquinone)				
45	55231-08-8	Polyethylene terephthalate - adipate	PBAT			7.5 (in terephthalic acid);5 (in 1,4-butanediol)	28;30	It can be used only in single film or in the coating with a thickness of less than or equal to 120m. The temperature for use shall not exceed 100^{o}C, and it can't be used for freezing or refrigeration.

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
46		Polyethylene terephthalate resin	PET	1.5 (Sb, Sb)		30 (in ethylene glycol);7.5 (in terephthalic acid)	2;28	
47	25038-59-9, 25052-77-1, 24938-04-3, 27027-87-8	Polyethylene terephthalate copolymer modified by diethylene glycol -terephthalate; terephthalic acid dimethyl ester or terephthalic acid and ethylene glycol condensated with the following substances: dimethyl isophthalate, isophthalic acid, and diethylene glycol	PET	1.5 (Sb, Sb)		30 (in ethylene glycol), 5 (in isophthalic acid);7.5 (in terephthalic acid)	2，27;28	
48	26590-75-0	Polymer of 1,3-propanediol and terephthalic acid	PTT	0.05 (1,3-propanediol)		7.5	28	
49	36619-23-5	Polymer of dimethyl terephthalate and 1,3-propanediol	PTT	0.05 (1,3-propanediol)		7.5	28	The temperature for use shall not exceed 100°C.
50	61778-68-5	Polymer of 1,12-dodecanedioic acid, terephthalic acid and 1,4-butanediol	PBT	5 (1,4-butanediol)		7.5	28	

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
51	24968-12-5	Poly (butylene terephthalate); poly (oxo-1,4-butoxycarbonyl-1,4-phenylene-carbonyl)	PBT			7.5 (in terephthalic acid); 5 (in 1,4-butanediol)	28;30	
52	1224447-95-3	Polymer of poly (butylene terephthalate) - Poly THF ether block copolymer with Maleic anhydride	PBT	0.6 (tetrahydrofuran)		30 (in maleic acid); 5 (in 1,4-butanediol)	3;30	The temperature for use shall not exceed 121^{o}C.
53	9086-55-9	Polymer of dimethyl isophthalate, 1,4-butanediol, terephthalic acid and poly (1,4-butanediol)	PBT			7.5 (in terephthalic acid); 5 (1,4-butanediol)	28;30	The temperature for use shall not exceed 121^{o}C.
54	30965-26-5, 26062-94-2	Polymer of dimethyl terephthalate and 1,4-butanediol, terephthalic acid, 1,4-butanediol polymers	PBT			7.5 (in terephthalic acid); 5 (in 1,4-butanediol)	28;30	The temperature for use shall not exceed 121^{o}C.
55		Polymer of Dimethyl terephthalate, 1,4-butanediol, adipic acid and hexamethylene diisocyanate	PBT (biodegradable resin)		1 (1,6-isocyanato-hexane, in isocyanato)	7.5 (in terephthalic acid); 5 (in 1,4-butanediol)	28;30	The temperature for use shall not exceed 100^{o}C.
56		Polymer of dimethyl terephthalate, 1,4-butanediol, sebacic acid and hexamethylene diisocyanate	PBT (biodegradable resin)		1 (1,6-diisocyanato-hexane, in isocyanato)	7.5 (terephthalic acid); 5 (1,4-butanediol)	28;30	The temperature for use shall not exceed 100^{o}C.

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
57	9078-71-1	Polymer of dimethyl terephthalate, 1,4-butanediol, α- hydrogen -ω- hydroxy poly (1,4-butanediol) (polyester elastomer)	TPC-ET	0.6 (tetrahydrofuran)	5 (in sum of trimellitic acid and trimellitic anhydride)	7.5 (in terephthalic acid); 5 (in 1,4-butanediol)	28;30	It can't be used to contact the foods with ethanol content higher than 8%, the temperature for use shall not exceed 66°C.
58	9086-55-9	Polymer of dimethyl isophthalate, 1,4-butanediol, terephthalic acid and poly (1,4-butanediol) (polyester elastomer)	TPC-ET	0.6 (tetrahydrofuran)		7.5 (in terephthalic acid); 5 (in 1,4-butanediol)	28;30	It shall be used only for bulky and dry foods without free oil.
59	64811-37-6	Polymer of dimethyl terephthalate, 1,4-butanediol, methyl ethylene oxide and ethylene oxide (polyester elastomer)	TPC-ET		0.9 g/dm2 (polymer of dimethyl terephthalate, 1,4-butanediol, methyloxirane and oxirane); 1 (ethylene oxide); 1 (methyl ethylene oxide)	5	30	If they are mixed in use, it can be used only by mixing with the non-polyolefin resin. It can't be used in bottles.

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60	261716-94-3	Polymer of dimethyl terephthalate, 1,4-cyclohexanedimethanol, 2,2,4,4-tetramethyl-1,3-cyclobutanediol	Modified PCT	5 (2,2,4,4-tetramethyl-1,3-cyclobutanediol)		5		The temperature for use shall not exceed 100°C.
61	9078-71-1	Polymer of dimethyl terephthalate,1,4-butanediol, α-hydrogen-ω- hydroxy poly (oxy-1,4-butane-diyl)	Modified PBT Thermoplastic elastomer (TPE)	0.05 (tetrahydrofuran)		7.5 (in terephthalic acid); 5 (in 1,4-butanediol)	30	When used as a polyester elastomer, it shall be used only to contact the dry solid-state food.
62		Grafted copolymer of polymer of terephthalic acid, 1,4-butanediol, fumaric acid, ethylene glycol, and adipic acid, with polymer of styrene- methyl succinate	Modified PBT			7.5 (in terephthalic acid); 5 (in 1,4-butanediol)	28;30	The coating thickness of the material should be below 0.12μm, and should be separated from the food by using polypropylene layer with a thickness of 100μm. It can be used only to contact the lipid food.

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
63	147310-94-9	Polymer of terephthalic acid, [1,1'-biphenyl] -4,4'-diol, 4-hydroxybenzoic acid, 6-hydroxy-2-naphthoic acid and N- (4-hydroxyphenyl) acetamide, acetate and potassium salts	LCP	0.05 (6-hydroxy-2-naphthoic acid); 6 (4,4'-dihydroxybiphenyl); 0.05 (N- (4- hydroxyphenyl) acetamide)		5	28	It can't be used to contact the foods with ethanol content higher than 8%, and the solid-state foods with the surface containing lipids.
64	70679-92-4	Polymers of 6-(acetyloxy) -2-naphthoic acid and 4-(acetyloxy) benzoic acid propert	LCP	0.05 (6-hydroxy-2-naphthoic acid); 6 (4,4'-dihydroxybiphenyl); 0.05 (N- (4- hydroxyphenyl) acetamide)		5		It can't be used to contact the foods with ethanol content higher than 8%, and the solid-state foods with the surface containing lipids.
65	125495-90-1	Copolymer of (3R) -3-hydroxybutyric acid and 4-hydroxybutyric acid	Poly(3HB-co-4HB);P(3,4HB)			5	30	It can't be used in the alcohol food; The temperature for use shall

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								not exceed 100°C.
66	9051-89-2	Poly lactic acid	PLA					The temperature for use shall not exceed 100°C.
67	25777-14-4	Poly(butylene succinate)	PBS、PBSU			5	30	The temperature for use shall not exceed 100°C.
68	219566-57-1	Polymer of trans-dimethyl 1,4-cyclohexanedicarboxylate and 1,4-cyclohexane dimethanol	PCCD					
69		Unsaturated polyester resin	UP		0.2% (in styrene, resin template)			
70		Polymer of 4,4'-isopropylidene diphenol (bisphenol A) and Carbonyl Chloride	PC	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); 0.06 (phenol, distilled water refluxed, 6h)				It can't be used in the manufacture of the special infant food containers.

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
71	202483-49-6	Copolymer of oxosilane and silicone resin, with 4,4'-isopropylidene diphenol (bisphenol A), carbonyl dichloride and 4- (1-methyl-1-phenylethyl) phenol, with 2 - methyl, 3- (4-hydroxy-3-methoxyphenyl) propyl group as capping agent	PC	0.6 (4,4'-isopropylidene diphenol (bisphenol A))	1 (carbonyl chloride)			It can't be used in the manufacture of the special infant food containers.
72	103598-77-2	p-Tert-butyl phenol-terminated poly (carbonate 4,4'-isopropylidene diphenyl ester)	PC	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); 0.05 (p-tert-butylphenol)	1 (carbonyl chloride)			It can't be used in the manufacture of the special infant food containers.
73	114096-64-9	Polymer of isophthaloyl chloride and terephthaloyl chloride, carbonyl dichloride, 4,4'-isopropylidene diphenol (bisphenol A), 4- (1- methyl-1-phenylethyl) phenol,(P-cumylphenol) and bis [4- (1-methyl) -1-phenylethyl ester	PC	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); 0.05 (p-cumylphenol)	1 (carbonyl chloride)	5 (in isophthalic acid); 7.5 (in terephthalic acid)	27;28	It can't be used in the manufacture of the special infant food containers.
74	235420-85-6	Polymer of isophthaloyl chloride and terephthaloyl chloride, resorcinol, carbonyl	PC	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); 0.05 (p-cumylphenol); 2.4 (resorcinol)	1 (carbonyl dichloride)	5 (in isophthalic acid); 7.5 (in terephthalic	27;28	It can't be used in the manufacture of the special

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
		dichloride, 4,4'- (1-methylethylidene) bis (phenol) -4- (1-phenylethyl) phenyl ester				acid)		infant food containers.
75	411234-34-9	Polymer of carbonyl dichloride and 4,4'-cyclohexylene bis (2-methylphenol) and 4,4 '-(1-methylethylidene) bis (phenol) bis [4- (1-methyl- 1-phenylethyl) phenyl] ester	PC	0.6 (4,4'-isopropylidene diphenol (bisphenol A))	1 (carbonyl chloride)	5 (in isophthalic acid); 7.5 (in terephthalic acid)		It can't be used in the manufacture of the special infant food containers.
76	71519-80-7	Polymer of isophthaloyl chloride and terephthaloyl chloride, carbonyl chloride, and 4,4-isopropylidene diphenol (bisphenol A)	PC	0.6 (4,4'-isopropylidene diphenol (bisphenol A))	1 (carbonyl chloride)	5 (in isophthalic acid); 7.5 (in terephthalic acid)	27;28	It can't be used in the manufacture of the special infant food containers.
77	26125-40-6, 25212-74-2	Poly (thio-1,4-phenylene); polyphenylene sulfide	PPS	12 (1,4-dichlorobenzene)				The temperature for use shall not exceed 121^{o}C
78	25154-01-2	Polymer of 4,4'-isopropylidene diphenol (bisphenol A) and 1,1'-sulfonyl - bis (4-chlorophenyl)	PSU	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); 0.05 (1,1'- sulfonyl-bis (4-chlorophenyl))				The temperature for use shall not exceed 121^{o}C. It can't be used in the manufacture

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
								of the special infant food containers.
79	25667-42-9, 25608-63-3	Polymer of (oxy 1,4-phenylene-thio- 1,4-phenylene-enyl), 4,4'-sulfonyl diphenol and 1,1'-sulfonyl-bis (4-chlorophenyl)	PESU	0.05 (4,4'-sulfonyl diphenol (bisphenol S)); 0.05 (4,4'-dichlorodiphenyl sulfone)				
80	25608-64-4, 25839-81-0	Polymer of (1,1-biphenyl)-4,4'-diol and 1,1'-sulfonyl bis (4-chlorophenyl)	PPSU	6 ((1,1'-biphenyl) -4,4'-diol); 0.05 (1,1'-sulfonyl-bis (4-chlorophenyl))				
81		Melamine formaldehyde resin	MF	2.5 (melamine)		15	15	When it is used to contact the infant formula food, the specific migration limit of melamine shall be 1 mg/kg.
82		Urea-formaldehyde resin	UF			15	15	
83		Polycaprolactam	PA6			15	4	
84		Polymer of poly adipic acid and hexamethylene diamine	PA66			15	4	

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85	50327-22-5, 50327-77-0	Polyhexamethylene adipamide	PA					
86	25038-74-8	Polyamide 12	PA	5 (tridecyl azetidin-2-one)				
87	26098-55-5	Polymer of 1,12-dodecanedioic acid and hexamethylenediamine	PA	2.4 (hexamethylene diamine monomer)				
88	25053-13-8	Polymer of adipic acid and caprolactam, hexamethylenediamine and 4,4'-methylene bis (cyclohexylamine)	PA	2.4 (hexamethylene diamine); 0.05 (4,4'-Dicyclohexylcarbodiimide)		15	4	
89	24993-04-2	Polymer of caprolactam and imino-hexy-methylimino adipyl	PA	2.4 (hexamethylene diamine)		15	4	
90	9008-66-6,9011-52-3,6422-99-7	Polyamide 610	PA	2.4 (1, 6- hexamethylene diamine)				
91	25718-70-1	Polymer of adipic acid and 1,3-xylenediamine	PA	0.05 (1,3-xylylenediamine)				
92	25750-23-6	Polymer of isophthalic acid and terephthalic acid and 1,6-hexamethylendiamine	PA	2.4 (hexamethylene diamine)		5 (in isophthalic acid); 7.5 (in terephthalic acid)	27;28	
93	9069-93-6, 26246-	Polymer of dimethyl terephthalate and 2,2,4	PA		5 mg/6dm2 (penicillamine)			

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
	77-5	(or 2,4,4) - trimethyl-1,6-hexamethylendiamine						
94	25776-72-1	Polyamide 66T	PA	2.4 (1.6-hexamethylene diamine)		7.5	28	
95	51025-80-0	polymer of compound of [Terephthalic acid and 1,6-hexamethylene diamine(1: 1)] with caprolactam	PA	2.4 (hexamethylene diamine)		15 (in caprolactam); 7.5 (in terephthalic acid)	4;28	
96	536741-00-1	Polymer of 4-chloro-1,3-isobenzofurandione with 1,3-phenylenediamine, 5-chloro-1,3-isobenzofurandione, 1,3-isobenzofurandione and 4,4'- (1-methylethylidene) bisphenol	PEI	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); ND (1,3- phenylene diamine, DL = 0.02mg/kg); 0.05 (5-chloro-1,3-iso- benzo Furandione, in 4-chloro-benzoic acid); 0.05 (4-chloro-1,3-isobenzofurandione, in 3-chloro-benzoic acid)				It can't be used in the manufacture of the special infant food containers.
97	61128-46-9	Polymer of 5,5'- [(1-methylethylidene) bis (4,1-phenyleneoxy)] bis-1,3-isobenzofurandione and 1,3-phenylene diamine	PEI	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); ND (1,3- phenylene diamine, DL = 0.02mg/kg)				It can't be used in the manufacture of the special infant food containers.
98	77699-82-2	Polymer of 4,4 '- [5,5' - [(isopropylidene) bis (4,1-phenoxy) -1,3-bis-isobenzofurandione and	PEI	0.05 (in bisphenol A dianhydride); 5 (in 4,4'-sulfonyl dianiline)				

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
		4,4'-sulfonyl bis aniline						
99	911701-92-3	Polymer of 4-chloro-1,3-isobenzofurandione and m-phenylenediamine, 5-chloro-1,3-isobenzofurandione and 4,4 '- (1-methyl-ethyl acetal) bisphenol with 4- (1-methyl-1-phenylethyl) phenol as capping agent	PEI	0.6 (4,4'-isopropylidene diphenol (bisphenol A)); ND (1,3- phenylene diamine); 0.05 (5-chloro-isobenzofuran-1,3-dione); 0.05 (4-chloro-1,3-isobenzofurandione); 0.05 (4- (1-methyl-1-phenylethyl) phenol)				It can't be used in the manufacture of the special infant food containers.
100	28476-49-5	Polymer of adipic acid and 1,4-butanediol and hexamethylene diisocyanate	PUR		1 (hexamethylene diisocyanate, in isocyanato)		30	The temperature for use shall not exceed 200^{o}C.
101	29891-05-2	Polymer of adipic acid and 1,4-butanediol, 1,6-diisocyanatohexane, 1,6-hexanediol and 2,2-dimethyl-1,3-propanediol (<2%)	PUR	0.05 (2,2-dimethyl-1,3-propanediol); 0.05 (1,6-hexanediol)	1 (hexamethylene diisocyanate, in isocyanato)		30	The temperature for use shall not exceed 200^{o}C.
102		Polymer of 4,4'- (1-methyl-ethylene) diphenol and (chloromethyl) oxirane, and polymer of methacrylate, Maleic anhydride and 1,3-	Bisphenol A epoxy resin		1 polymer of (4,4 (isopropylidene) diphenol and (chloromethyl) oxirane); 1 (toluene		3;23	It can't be used in the manufacture of the special infant food containers.

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
		toluene diisocyanate			diisocyanate (mixture of 2,4-position and 2,6-position))			
103	88526-47-0	Hydrogenated aromatic petroleum hydrocarbon resin	Hydrogenated petroleum hydrocarbon resin					The hydrogenated petroleum hydrocarbon resin is processed by catalytic or thermal polymerization and distillation, hydrogenation and other processes of the aliphatic series, alicyclic group in the cracking petroleum fraction with a boiling range not higher than 220^{o}C and (or) the dienes and olefins of

S/N	CAS No.	English Name	Generic category name	Specific migration limit (mg/kg)	Maximum residue (mg/kg)	SML(T) (mg/kg)	SML (T) grouping No.	Remarks
								single ring aromatic alkene, and the monomers in the fraction. Property: higher than 120°C, viscosity: >3 Pa.s; softening temperature: >95°C; bromine value: <40; the color of 50% of toluene solution of the substance should be <11 (Gardner Color Code); aromatic monomer residue: ≤50 ppm

Note: The acronyms and definitions of SML, QM and SML(T) in GB 9685, and the grouping No. of SML(T) corresponding to special migration limit listed in Table B.1 in Appendix B shall apply to this standard.

END OF TRANSLATION