

Translated English of Chinese Standard: GB9685-2016

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

GB 9685-2016

**National Food Safety Standard - Standard for Uses of
Additives in Food Contact Materials and Their Products**

食品安全国家标准 食品接触材料及制品用添加剂使用标准

[Including 2025XG1 Amendment No.1]

Issued on: October 19, 2016

Implemented on: October 19, 2017

**Issued by: National Health and Family Planning Commission of the People's
Republic of China**

Table of Contents

Foreword.....	3
1 Scope.....	5
2 Terms and Definitions.....	5
3 Using Principles of Additives in Food Contact Materials and Their Products.....	6
4 Using Requirements of Additives in Food Contact Materials and Their Products...	7
Appendix A Food Contact Materials and Their Products - Allowable Additives with Their Using Requirements	8
Appendix B Total Specific migration Limit [SML (T)]	161
Appendix C Special Limitation of Metallic Elements.....	166
Appendix D Meanings of Acronyms for Plastic Materials in Table A.1	167
Appendix E Search Directory of Additives for Food Contact Materials and Products	169
2025XG1 Amendment No. 1	266

Foreword

This standard replaces GB 9685-2008 "Hygienic Standards for Uses of Additives in Food Containers and Packaging Materials".

Compared with 9685-2008, the main changes in this standard are as follows:

- The standard name is revised as "National Food Safety Standard - Standard for Uses of Additives in Food Contact Materials and Their Products";
- The expression of standard scope is revised;
- Some terms and definitions are revised while some, such as "total specific migration limit", are added;
- The using principles are revised;
- As for the using requirements of additives in food contact materials and their products, the application instructions for each appendix of this standard are added while the contents of specific migration and inspection method judgment are deleted;
- The structure of Appendix A is adjusted, the list of additives and their using requirements are respectively listed in Tables A.1~A.7 in Appendix A; three columns, namely FAC No., SML (T) and SML (T) Group No., are added;
- Food contact materials and their products - allowable additives with their using requirements (Appendix A) are revised, and the contents in Tables A.1~A.7 are added;
- Varieties of additives listed in Appendix A are increased from 958 kinds to 1294 kinds;
- The requirements of additives in food contact materials and their products in Announcements of the former Ministry of Health (No. 5 [2012] and No. 11 [2012]), and Announcements of the National Health and Family Planning Commission (No. 1 [2013], No. 14 [2013] and No. 14 [2014]) are added;
- 4 kinds of phthalate esters, such as dimethyl phthalate, are deleted, the usage scope of other phthalate esters and the types of foods they are limited from contact are adjusted;
- 2 kinds of hydrates and the additives in food contact materials and their products with usage scope of glass, metal, ceramic and enamel are deleted.
- Substances simultaneously listed in Table A.2 of GB 2760-2014 are deleted;
- 3 kinds of perfluorochemicals used in paper, such as perfluoroalkyl acrylate copolymer, are deleted;

National Food Safety Standard - Standard for Uses of Additives in Food Contact Materials and Their Products

1 Scope

This standard specifies the using principles of additives in food contact materials and their products well as the variety, use scope, maximum level, specific migration limit or maximum residue quantity, total specific migration limit and other limit requirements of their allowable additives.

This standard also includes monomers of some basic polymers or other initiators of polyreaction used during the processing of food contact materials and their products.

2 Terms and Definitions

2.1 Additives in food contact materials and their products

The substances added in food contact materials and their products during the production, which improve or help to improve their quality and characteristics so as to meet the intended use; they also include the processing agents (hereinafter referred to as "additive") added in production process so as to ensure the smooth development of production process other than improving the quality and characteristics of the final products.

2.2 Maximum usage quantity

The maximum allowable quantity of certain kind or type of additive added during the production of food contact materials and their products is expressed in mass fraction (%).

2.3 Maximum residue quantity (QM)

The maximum allowable quantity of certain kind or type of residue in food contact materials and their products, expressed by the amount of residue (in milligram) in each kilogram of food contact materials and their products (mg/kg) or by the amount of residue (in milligram) in each square decimeter of contact area between food contact materials/their products and foods (mg/dm²).

2.4 Specific migration limit (SML)

The maximum allowable quantity of certain kind or type of additive migrating from food contact materials and their products to foods or food simulants contacting them, expressed by the quantity of substance (in milligram) migrating from each kilogram of foods or food simulants (mg/kg) or by the quantity of substance (in milligram) migrating from each square decimeter of contact area

between food contact materials/their products and foods or food simulants (mg/dm²).

2.5 Total specific migration limit [SML (T)]

The total maximum allowable quantity of two or more kinds of additives migrating from food contact materials and their products to foods or food simulants contacting them, expressed by the quantity of the specified kind or type of migrated substance (or group) (in milligram) in each kilogram of foods or food simulants (mg/kg) or by the quantity of the specified kind or type of migrated substance (or group) (in milligram) in each square decimeter of contact area between food contact materials/their products and foods or food simulants (mg/dm²).

2.6 CAS No. (chemical abstract service)

Chemical Abstract Service Registry Number.

2.7 Not detectable (ND)

The analyzed target substance shall not be detected out where the analysis method with specified detection limit (DL) is adopted.

2.8 FCA No.

Chinese number of additives in food contact materials and their products.

3 Using Principles of Additives in Food Contact Materials and Their Products

3.1 When the food contact materials and their products contact the foods under recommended use conditions, the level of additive migrating into foods and its impurity level shall not be harmful to human health.

3.2 When the food contact materials and their products contact the foods under recommended use conditions, the additive migrating into foods shall not change the composition, structure or color, aroma, taste, etc. of the foods (unless otherwise specified).

3.3 The quantity of additive used in food contact materials and their products shall be minimized under the premise of realizing the expected effect.

3.4 The used additive shall meet corresponding quality specification requirements.

3.5 The substances listed in GB 2760, where permitted to be used as additives in food contact materials and their products, shall not generate technological function on the foods they contact.

Appendix A

Food Contact Materials and Their Products - Allowable Additives with Their Using Requirements

A.1 This appendix specifies allowable additives in various food contact materials and their products in table form. Additives in each table are ordered by the number of characters of Chinese names, numeric order and phonetic sequence of English alphabets and Chinese phonetic alphabets; meanwhile, they shall meet all those specified in each column of the table.

A.2 The column of "maximum level" specifies the allowable maximum level of the additive. The column "maximum level" in the list of food contact plastic materials and their products - allowable additives with their using requirements (Table A.1) also lists specific types of allowable plastic resins (expressed in acronyms). See Appendix D for the meanings of resin acronyms; specific resin types include those specified in GB 4806.6 and other approved ones.

A.3 The column "SML/QM" specifies the specific migration limit or maximum residue quantity of additive. The column "SML (T)" lists the substances and corresponding limits which shall meet the requirements of total specific migration limit. The column "SML (T) Group No." list the SML (T) Group No. in Table B.1. The sum of corresponding additive migration quantities shall meet the corresponding total specific migration limit of the SML (T) Group No. in Appendix B. The unlimited "maximum level", "SML", "QM" and "SML (T)" express that there is no special limitation. Where both "SML" and "SML (T)" are unlimited, the migration of additive shall not exceed 60mg/kg.

A.4 Where the additives listed in this appendix contain metallic elements listed in Table C.1, their use shall meet the special limitation for specific migration limit of metallic elements as listed in Table C.1.

A.5 Some additives may have more than one CAS-No. due to the existence of isomer or uncoordinated proportion of ingredients. As for the additive with various English names, the CAS No. shall prevail; as for the additive without CAS No., the English name shall prevail.

A.6 Table A.1 specifies the FCA No., English name, CAS No., use scope, maximum level, SML/QM, SML (T), SML (T) Group No. and relevant limit requirements of allowable additives in food contact plastic materials and their products.

A.7 Table A.2 specifies the FCA No., English name, CAS No., maximum level, SML/QM, SML (T), SML (T) Group No. and relevant limit requirements of allowable additives in food contact paints and coatings.

A.8 Table A.3 specifies the FCA No., English name, CAS No., maximum level, SML/QM,

SML (T), SML (T) Group No. and relevant limit requirements of allowable additives in food contact rubber materials and their products.

A.9 Table A.4 specifies the FCA No., English name, CAS No., maximum level, SML/QM, SML (T), SML (T) Group No. and relevant limit requirements of allowable additives in printing ink used for food contact materials and their products.

A.10 Table A.5 specifies the FCA No., English name, CAS No., maximum level, SML/QM, SML (T), SML (T) Group No. and relevant limit requirements of allowable additives in adhesives used for food contact materials and their products.

A.11 Table A.6 specifies the FCA No., English name, CAS No., maximum level, SML/QM, SML (T), SML (T) Group No. and relevant limit requirements of allowable additives in food contact paper and board materials and their products.

A.12 Table A.7 specifies the use scope, FCA No., English name, CAS No., maximum level, SML/QM, SML (T), SML (T) Group No. and relevant limit requirements of allowable additives in other food contact materials and their products (such as silicon rubber).

A.13 In addition to the additives listed in this appendix, the substances complying with the following requirements may also be used as additives in food contact materials and their products:

- a) Where there is no chemical reaction, the use of mixtures of substances listed in Tables A.1~A.7 shall meet relevant requirements of all additive thereof;
- b) Where no technological function is generated on the foods, the use of substances listed in Table A.2 of GB 2760 shall meet relevant requirements of this standard;
- c) As for the acids, alcohols or phenols listed in this appendix, their sodium salt, potassium salt and calcium salt (including acid salt and double salt) may also be used and shall meet the limit requirements of corresponding acid, alcohol or phenol additives; the use of sodium salt, potassium salt and calcium salt (including acid salt and double salt) listed in this standard shall meet the requirements of this standard;
- d) The use of the substances containing crystal water listed in this appendix shall meet the limit requirements of corresponding substances;
- e) As for the polymers (except the macromolecular substance generated through microbial fermentation) with molecular weight greater than 1000Da and permitted to be used in food contact materials and their products in China, their use shall meet the limit requirements of corresponding polymers.

Table A.1 Food Contact Plastic Materials and Their Products - Allowable Additives with Their Using Requirements

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
FCA0001	(1, 1-dimethylethylmethoxyphenol)-4-methoxyphenol; butylated hydroxyanisole (BHA)	25013-16-5	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PVDC, UP: 0.1	30 (SML)			
FCA0003	Polymer of (1, 1-xenyl)-4, 4'-diol and 1,1'-sulfonylbis(4-chlorobenzene)	25608-64-4	PEI: used appropriately according to the production demand	6 [(1, 1-xenyl)-4, 4'-diol: SML]; 0.05 (sulfonyl-1,1'-bis(4-chlorobenzene): SML)			
FCA0004	(1 <i>R</i> , 2 <i>R</i> , 3 <i>S</i> , 4 <i>S</i>)-rel-bicyclo[2.2.1]heptane-2,3-dicarboxylic acid disodium salt	351870-33-2	PP, PE: 0.25	5 (SML)			
FCA0005	Calcium cyclohexane-1,2-dicarboxylate	491589-22-1	Polyolefin: 0.25	5 (SML)			
FCA0007	2,2'-dihydroxy-4-methoxybenzophenone	131-53-3	PP, PE, PET: 0.3		6	8	
FCA0008	2-hydroxy-4-methoxy-benzophenone	131-57-7	PE, ABS, PET: 0.3		6	8	
FCA0009	(1,2-dioxoethylene)bis(iminoethylene) bis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate)	70331-94-1	PP, PE, PS: 0.5				
FCA0010	Mixture of (35%~45%w/w)1,6-diamino-2,2,4-trimethylhexane and (55%~65%w/w)1,6-diamino-2,4,4-trimethylhexane	25513-64-8	PA: used appropriately according to the production demand	0.05 (2,2,4-trimethyl-1.6-hexanediamine: SML)			
FCA0012	Glycerides (C16-18 and C18-unsaturated)	67701-30-8	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand				
FCA0013	(<i>E</i> , <i>E</i>)-2, 4-hexadienoic acid	110-44-1	PE, PP, PS, ABS, AS, PA, PET, PC, PVC: used appropriately according to the production demand				
FCA0014	(<i>Z</i>)-2-butenedioic acid polymer with 2-propenoic acid	29132-58-9	Used appropriately according to the production demand		30 (calculated in maleic acid); 6 (calculated in propenoic acid)	3; 22	
FCA0015	9-octadecenoic acid (<i>Z</i>)-, 2-mercaptoethyl ester, reaction products with dichlorodimethylstannane, sodium sulfide and trichloromethylstannane	68442-12-6	PP, PE, PS, PV, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand		0.18	9	
FCA0016	9-octadecenoic acid (<i>Z</i>)-, sodium salt; sodium oleate	143-19-1	PE, PP: 20mg/m ²	2 (SML)			
FCA0017	(<i>Z</i>)-9-octadecenamide, oleamide	301-02-0	PE, PP, PS, ABS, AS, PA, PET, PC, PVC: used appropriately according to the production demand				
FCA0018	9-octadecenoic acid (<i>Z</i>)-, zinc salt	557-07-3	PVC: 3				SML of zinc element shall meet those specified in Appendix C
FCA0020	Oleyl palmitylamide	16260-09-6	PP: 0.7; PE, PS, ABS: used appropriately according to the production demand	5 (SML)			
FCA0021	Mono-9-octadecenoate, (<i>Z</i>)-sorbitan; sorbitan monostearate (Span 80); monooctadecanoate	1338-43-8	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PVDC: used appropriately according to the production demand				
FCA0022	N,N'-1,2-ethanediylbis-, (<i>Z,Z</i>)-9-octadecenamid	110-31-6	PE: 0.5; PP, AS, ABS: 2; PS: 0.4; PA, PET, PC: 0.2				
FCA0023	α -(1-oxo-9-octadecenyl)- ω -[(1-oxo-9-octadecenyl)oxy]-, (<i>Z,Z</i>)-poly(oxy-1,2-ethanediyl)	9005-07-6	PET: 0.9	30 (SML)			The usage temperature of produced materials and products is not higher than 100℃
FCA0025	[Copper, [29 <i>H</i> ,31 <i>H</i> -phthalocyaninato- <i>N</i> 29, <i>N</i> 30, <i>N</i> 31, <i>N</i> 32]-, chlorinated	68987-63-3	PE, PP, PS, PVC: 0.1				Shall comply with the purity requirements of colorant, see notes; SML of copper element shall meet those specified in Appendix C

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
FCA0026	3,5,7-triaza-1-azoniatricyclo[3,3,1,(3,7)-]decane, 1-(3-chloro-2-propenyl)-, chloride	4080-31-3; 51229-78-8	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	0.3 (SML)			
FCA0028	1,1,2,3,3,3-hexafluoro-1-propene	116-15-4	PE, PP, PA: 0.2	ND (SML, DL=0.01 mg/kg)			
FCA0029	Poly (vinylidene fluoride co-hexafluoropropylene)	9011-17-0	PE, PP: 0.1	ND (co-hexafluoropropylene: SML, DL=0.01mg/kg); 5 (vinylidene fluoride: SML)			The molecular weight is not less than 70000
FCA0030	Copolymer of 1,1,2,3,3,3-hexafluoroprop-1-ene together with 1,1-difluoroethylene and tetrafluoroethylene	25190-89-0	PP, PE: 0.2	5 (1,1-difluoroethylene: SML); 0.05 (tetrafluoroethylene: SML); ND (1,1,2,3,3,3-hexafluoroprop-1-ene: SML, DL=0.01 mg/kg)			The molecular weight is not less than 100000
FCA0031	1,1,3-tris(2-methyl-4-hydroxy-5-tert-butylphenyl)	1843-03-4	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PVDC: 0.25	5 (SML)			Where used for production of materials or products contacting fat and alcohol foods, the maximum level is 0.1%
FCA0036	1,1'-methylenebis[4-isocyanatobenzene] homopolymer	39310-05-9	PA, PET; used appropriately according to the production demand	1 (calculated in isocyanato, QM)	ND (DL=0.01 mg/kg)	17	
FCA0038	Nonitol, 1,2,3-trideoxy-4,6:5,7-bis- <i>O</i> -[(4-propylphenyl)methylene]	882073-43-0	PP: 0.5	5 (SML)			
FCA0042	1,2-propanediol	57-55-6	PE, PP, PS, AS, ABS, PET, PC, PVC, PVDC: used appropriately according to the production demand				
FCA0044	1,2-ethanediamine	107-15-3	PVC: 0.5	12 (SML)			
FCA0045	Di-isononyl-cyclohexane-1,2-dicarboxylate	166412-78-8	PE, PP, AS, PS, ABS, PC, PA, PVDC, PET, PVC: used appropriately according to the production demand		60	32	
FCA0047	1,2-ethanediol	107-21-1	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PVDC, UP: used appropriately according to the production demand		30	2	
FCA0050	1,3,5-benzenetricarboxylic acid chloride	4422-95-1	PA: used appropriately according to the production demand	0.05 (trimesic acid: SML))			Where relevant migration testing method is unavailable, 0.05mg/6dm ² (QM) may be adopted as its limit value
FCA0051	1,3,5-tris(4-tert-butyl-3-hydroxy-2,6-dimethylbenzyl)-1,3,5-triazine-2,4,6-(1 <i>H</i> ,3 <i>H</i> ,5 <i>H</i>)-trione	40601-76-1	PE, PP, PS: 0.1	6 (SML)			
FCA0052	1,3,5-tris(3,5-di-tert-butyl-4-hydroxy benzyl)-s-trizine-2,4,6-(1 <i>H</i> ,3 <i>H</i> ,5 <i>H</i>)-trione	27676-62-6	PP, ABS:0.25; PE, PET: 0.5	5 (SML)			
FCA0053	1,3,5-trimethyl-2,4,6-tris-(3,5-di-tert-butyl-4-hydroxybenzyl)-benzene	1709-70-2	PE, PP, PS, ABS, PA, PET, PC, PVC, PVDC: 0.5				
FCA0054	1,3,5-triazine-2,4,6-triamine; melamine	108-78-1	PP: 0.1; POM: 0.2	2.5 (SML)			The usage temperature of produced POM materials and products is not higher than 100℃; where it is used to produce food contact materials or their products special for infants, the SML of melamine shall be 1mg/kg
FCA0057	1,3:2,4-di- <i>O</i> -(p-chlorobenzylidene)-d-sorbitol; DCBS	82203-23-4	PP: 0.3				Not applicable to PP film
FCA0058	1,3:2,4-bis(3,4-dimethylobenzylideno) sorbitol	135861-56-2	PP, PE: 0.4				
FCA0060		1459-93-4	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used	0.05 (SML)			

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
	1,3-benzenedicarboxylate		appropriately according to the production demand				
FCA0065	1,3-dioxo-1,3-dihydro-2-benzofuran-5-carboxylic acid; trimellitic anhydride	552-30-7	PET: 2		5	21	
FCA0068	1,3-diisocyanatomethyl-benzen	26471-62-5	PU: used appropriately according to the production demand	1 (calculated in isocyanato, QM)	ND (DL=0.01mg/kg)	17	
FCA0069	1,3-bis(aminomethyl)benzene	1477-55-0	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	0.05 (SML)			
FCA0070	1,4-benzenedicarboxylic acid	100-21-0	PP,PE: 0.075		7.5	28	
FCA0071	1,4-benzenedicarboxylic acid, dimethyl ester, polymer with 1,4-cyclohexanedimethanol and 1,2-ethanediol	25640-14-6	PC, PBT, ABS, PEI, PPE: used appropriately according to the production demand		30	2	
FCA0073	1,4-benzenedicarboxylic acid bis(2-ethylhexyl) ester (DOTP)	6422-86-2	PE, PP, AS, PS, ABS, PC, PA, PVDC, PET: used appropriately according to the production demand; PVC: 75		60	32	
FCA0078	2-Oxepanone, polymer with 1,4-butanediol	31831-53-5	PE, PP, PS, ABS, AS, PA, PET, PC, VC: 0.1		0.05 (calculated in 6-hydroxycaproic acid and caprolactone); 5 (calculated in 1,4-butanediol)	29; 30	
FCA0079	1,4-bis(2-ethylhexyl) sodium sulfosuccinate	577-11-7	PE, PP, PS, AS, ABS: 3				
FCA0080	1,4-bis(hydroxymethyl)cyclohexane	105-08-8	PET, PC, PVC: Used appropriately according to the production demand				
FCA0081	1,4-cyclohexanedicarboxylic acid	1076-97-7	Polyester resin: used appropriately according to the production demand	5 (SML)			
FCA0082	1,4-bis[(2-ethyl-6-methylphenyl)amino]anthraquinone	41611-76-1	PET: 0.2				Shall comply with the purity requirements of colorant, see notes
FCA0093	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate	15571-58-1	PVC: 3; PE, PP, PS, AS, ABS, PA, PET, PC, PVDC, UP: 1		0.006	10	
FCA0094	Octadecanoic acid, 12-hydroxy-, calcium salt (2:1)	3159-62-4	POM: 1				
FCA0095	12-hydroxystearic acid	106-14-9	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand				
FCA0096	Octadecanoic acid, 12-hydroxy-, lithium salt (1:1)	7620-77-1	0.2				SML of lithium element shall meet those specified in Appendix C
FCA0097	2-[2,6-bis(1-methylethyl)phenyl]-6-[4-(1,1,3,3-tetramethylbutyl)phenoxy]-1H-benz[de]isoquinoline-1,3(2H)-dione	852282-89-4	PET: 0.5	0.05 (SML)			Where the produced materials or products are used for contacting non-fatty foods, their usage temperature is not higher than the room temperature; where used for contacting fatty food, their usage temperature shall be not higher than ℃; they shall not contact the food with ethanol content higher than 20%

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
FCA0099	1-phenyl-3-eicosanedione	58446-52-9	PVC: 1				
FCA0101	Poly(propylene-co-1-butene)	29160-13-2	Used appropriately according to the production demand				
FCA0102	Poly(ethylene-co-1-butene)	25087-34-7	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand				
FCA0104	1-docosanol	661-19-8	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PVDC, UP: used appropriately according to the production demand				
FCA0106	1-hexene, polymer with ethene	25213-02-9	PE, PP: used appropriately according to the production demand	3(1-hexene: SML)			
FCA0107	Cyclohexane, 1-methyl-4-(1-methylethyl)-, monohydroperoxy deriv.	26762-92-5	PE, PS, AS, ABS: used appropriately according to the production demand	0.05 (SML)			
FCA0108	Formaldehyde copolymer with 1-naphthalenol	25359-91-5	PVC: used appropriately according to the production demand	0.05 (formaldehyde copolymer with 1-naphthalenol: SML)	15	15	
FCA0112	Poly(ethylene-co-1-octene)	26221-73-8	PP, PE, PS, PVC, PVDC, PA, PC, ABS, AS, PET, UP, PPE, PEI, PBT: used appropriately according to the production demand	15 (octene: SML)			The content of octene is less than 30%
FCA0115	1-ethenyl-1 <i>H</i> -imidazole	1072-63-5	PVC: 40	0.05 (SML)			
FCA0117	2-tert-butyl-6-methyl-4- {3-[(2,4,8,10-tetra-tert-butyl)benzo[<i>d</i> , <i>f</i>][1,3,2]dioxaphosphepin-6-yl)oxy]propyl}phenol	203255-81-6	PE: 0.35; PP, PS: 0.5; PA: 0.1	5 (calculated in phosphite ester, phosphate and hydrolysate of substances, SML)			
FCA0118	2-(2 <i>H</i> -Benzotriazol-2-yl)-4,6-bis(1-methyl-1 phenylethyl)phenol	70321-86-7	ABS:1.2; PET: 0.5; PC: 3	1.5 (SML)			
FCA0119	2-(2-benzotriazolyl)-4-methylphenol	2440-22-4	PE, PP, PS, AS, ABS, PC: 0.5; PA: used appropriately according to the production demand; PET: 0.2		30	12	
FCA0120	2-(4,6-diphenyl-1,3,5-triazin-2-yl)-5-((hexyl)oxy)phenol	147315-50-2	PET, PC: 0.5	0.05 (SML)			
FCA0121	2-(5-chloro-2 <i>H</i> -benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-phenol	3864-99-1	PA, PC, PET: used appropriately according to the production demand		30	12	
FCA0122	2-tert-butyl-6-(5-chloro-2 <i>H</i> -benzotriazol-2-yl)-4-methylphenol	3896-11-5	PP, PE: 0.5		30	12	
FCA0124	Tributyl 2-(acetyloxy)propane-1,2,3-tricarboxylate	77-90-7	PVC, PP, PE, PS, PA, PC, ABS, AS, PET, PVDC, UP: used appropriately according to the production demand		60	32	
FCA0125	2,2-(1,4-phenylene)bis((4 <i>H</i> -3,1-benzoxazine-4-one)	18600-59-4	PE, PP, PS, AS, ABS,, PA, PET, PC: 1	0.05 (SML)			
FCA0126	2,5-di(5-tert-butylbenzoxazol-2-yl)thiophene	7128-64-5	PET, PE, PP, AS, ABS: 0.05; PC: 0.6; PS: 0.02; PVC, PVDC, PEI, PPE, POM, PA, PBT, TPC-, ET: 0.015	0.6 (SML)			
FCA0127	2,2'-(octadec-9-enylimino)bisethanol	25307-17-9	PE: 0.15	1.2 (SML)			
FCA0128	Disodium 2,2'(or 3,3')-oxybis(5 (or 2)-dodecylbenzenesulphonate)	25167-32-2	PE, PP: 0.3				
FCA0129	Polymer of 2,2,4,4-tetramethyl-7-oxa-3,20-diaza-20-(2,3-epoxypropyl)-dispiro-[5.1.11.2]-heneicosan-21-one	78301-43-6	PP, PE, PS, PVC, PA, PC, ABS, AS, PET: used appropriately according to the production demand	5 (SML)			
FCA0130	Polymer of 2,2,4,4-tetramethyl-7-oxa-3,20-diaza dispiro-[5.1.11.2]-heneicosan-21-one, hydrochloride, reaction products with epichlorohydrin, hydrolyzed. polymd.	202483-55-4	PP, PE: 0.5	5 (SML)			
FCA0131	2,2,4-trimethyl-1,3-pentanediol diisobutyrate: TX-IB	6846-50-0	PVC: 10	5 (SML)			May only be used for production of reusable PVC products (including PVC gloves used for food processing);, the

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
							usage temperature of the produced materials or products does not exceed 100℃
FCA0132	2,2'-((1-methylethylidene)bis(4,1-phenyleneoxymethylene))bis-oxiran	1675-54-3	PE, PP, PS, AS, ABS, PA, PET, PC: used appropriately according to the production demand	3[2,2-bis(4-hydroxyphenyl)propane: SML]; 1(epoxy ethane: QM) or ND (epoxy ethane: SML,DL=0.01mg/kg)			
FCA0133	2,2'-[(dimethylstannylene)bis(thio)]bis-acetic aci diisooctyl ester	26636-01-1	PVC: 2		0.18	9	
FCA0134	2,2'-((dioctylstannylene)bis(thio))bis-acetic aci diisooctyl ester	26401-97-8	PVC: 3; P, PP, PS, AS, ABS, PA, PET, PC, PVDC, UP: 1		0.006	10	
FCA0135	2,2-dimethyl-1,3-propanediol	126-30-7	PET: used appropriately according to the production demand	0.05 (SML)			
FCA0136	2,2-dihydroxymethyl butanol; tri(hydroxymethyl)propane; TMP	77-99-6	0.12	6 (SML)			
FCA0138	2,2'-methylenebis(6-cyclohexyl-4-methylphenol)	4066-02-8	PE, PP, PS: 0.5		3	5	
FCA0139	2,2'-azobis(2-methylpropionitrile)	78-67-1	PE, PP, PS, PVC: 0.2				
FCA0140	Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, 2,2-bis[[3-[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropoxy]methyl]-1,3-propanediyl ester; pentaerythritol tetrakis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate)	6683-19-8	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PEI, PPE, PBT, PCCD, EVA, PLA, E/NB: 0.5; POM: 1				
FCA0142	2,2'-methanediyl bis[4-methyl-6-(1-methylcyclohexyl)] phenol	77-62-3	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand		3	5	
FCA0143	2,2'-methanediylbis[6-(2 <i>H</i> -benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol]	103597-45-1	PET: 0.7; PC: 2				Where the produced materials or products are used for contacting water-based and acid food, their usage temperature is lower than 100℃; where used for contacting fatty and alcohol food, their usage temperature is lower than 80℃
FCA0144	2,2'-methylenebis(4-ethyl-6-tert-butylphenol)	88-24-4	PE: 0. 5; PP, PS, AS, ABS: 0.6		1.5	13	
FCA0145	Phosphate sodium 2,2'-methylene-bis-(4,6-di-tertbutylphenyl)	85209-91-2	PE: 0.3; PP: 0. 5; PS: 2	5 (SML)			
FCA0146	2,2'-methylenebis(6-tert-butyl-4-methyl-phenol)	119-47-1	PE, PP: 0.1; PS: 0.4; AS: 0.6; ABS: 2; POM: 0.5; TPC-ET: 5; PA: used appropriately according to the production demand		1.5	13	
FCA0147	2,2'-methylene-bis(4-chlorophenol)	97-23-4	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	12 (SML)			
FCA0148	Phenol, 2,2'-ethylidenebis(4,6-bis(1,1-dimethylethyl)-	35958-30-6	PE, PP, PS, PVC:0.1; ABS: 0.2	5 (SML)			
FCA0151	Lithium 2,2'-methylenebis(4,6-di-tert-butylphenyl) phosphate	85209-93-4	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	5 (SML)			SML of lithium element shall meet those specified in Appendix C
FCA0152	12 <i>H</i> -dibenzo(<i>d,g</i>)(1,3,2)dioxaphosphocin, 2,4,8,10-tetrakis(1,1-	126050-54-2	PP: 0.25; PE: 0.				The usage temperature of the produced

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
	dimethylethyl)-6-((2-ethylhexyl)oxy)-		15; PS: 0.2				PP and PE materials and products is lower than 100℃. The produced PS is only applicable to styrene-butadiene segmented copolymer and the styrene modified by rubber, and the usage temperature of the produced materials and products is lower than 66℃. The produced materials or products shall not be used for contacting fatty food.
FCA0153	2,2'-ethylidenebis(4,6-di-tert-butyl-phenyl) fluo	118337-09-0	PP, PE: 0.3	6 (SML)			
FCA0155	2,4-dimethyl-6-(1-methylpentadecyl)-	134701-20-5	PS, AS, ABS: 0.5; PVC: 0.033	1 (SML)			
FCA0158	2,4-dihydro-4-[(5-hydroxy-3-methyl-1-phenyl-1 <i>H</i> -pyrazol-4-yl)methylene]-5-methyl-2-phenyl-3 <i>H</i> -pyrazol-3-one	4174-09-8	PET: 0.2				Shall comply with the purity requirements of colorant, see notes
FCA0160	2,4-bis(dodecylthiomethyl)-6-methylphenol	110675-26-8	PS: 0.2		5	24	
FCA0161	2,5-dimethyl-2,5-di(tert-butylperoxy)hexane	78-63-7	PP, PE: used appropriately according to the production demand	100 (tert-butyl alcohol: QM)			
FCA0162	1,4-bis(4-octadecylsulfanylphenyl)-2,5-dihydropyrrolo[3,4- <i>c</i>]pyrrole-3,6-dione	247089-62-9	PE, PP, PS, ABS, AS, PA, PET, PC, PVC: 0.015				Shall comply with the purity requirements of colorant, see notes
FCA0163	2,5-furandione, polymer with 1-propene	25722-45-6	PC, PBT, ABS, PEI, PPE: used appropriately according to the production demand		30	3	As for 2,5-furandione in polymer, its combining weight does not exceed 0.8%, its characteristic viscosity is not less than 0.9dL/g (the concentration at 135℃ is 0.1%, and the solvent is naphthane)
FCA0165	2,6-di-tert-butyl-4-ethylphenol	4130-42-1	EVA: used appropriately according to the production demand; PE, PP:0.1	4.8 (SML)			
FCA0166	2,6-dimethylphenol	576-26-1	PE, PP, PS:0.5	0.05 (SML)			
FCA0169	2-[(1,3-dihydro-1,3-dioxo-2 <i>H</i> -isoindol-2-yl)methyl]-5,12-dihydroquino[2,3- <i>b</i>]acridine-7,14-dione	75641-02-0	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PVDC, UP: 0.05				Shall comply with the purity requirements of colorant, see notes
FCA0170	2-[(2,4,8,10-tetra-tert-butyl dibenzo[<i>d,f</i>][1,3,2]dioxaphosph epin-6-yl)oxy]- <i>N,N</i> -bis{2-[(2,4,8,10-tetra-tert-butyl dibenzo[<i>d,f</i>][1,3,2]dioxaphosph epin-6-yl)oxy]ethyl} ethanamine	80410-33-9	PE,PP: 0.3	5 (calculated in the sum of phosphite and phosphate, SML)			
FCA0171	2-[[4-(diethylamino)-2-methylphenyl]azo]-5-methylbenzene-1,3-dicarbonitrile	75198-96-8	PET: 0.2				Shall comply with the purity requirements of colorant, see notes
FCA0173	2-(2-Hydroxy-3,5-dipenryl-phenyl) benzotriazole	25973-55-1	PE, PP: 0.5				
FCA0174	3-(3,5-di-tert-butyl-4-hydroxyphenyl)- <i>N'</i> -[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propanoyl]propanehydrazide	32687-78-8	PE, PP: 0. 2; AS, ABS, PS: 0.1	15 (SML)			
FCA0175	2-(4,6-bis-(2,4-dimethylphenyl)-1,3,5-triazin-2-yl)-5-(octyloxy)-phenol	2725-22-6	PE: 0.3; PP: 0.1	0.05CSML)			The produced materials or products are only used for contacting water-based foods
FCA0176	2-(2 <i>H</i> -benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol	3147-75-9	PP: 0.3; PC: 0.5				

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
FCA0178	2-aminobenzamide	88-68-6	PET: used appropriately according to the production demand	0.05 (SML)			The produced materials or products are only used for contacting water-based foods
FCA0180	2-phenyl-1 <i>H</i> -indole	948-65-2	PP, PE, PS, PVC, PA, PC, ABS, AS, PET: used appropriately according to the production demand	15 (SML)			
FCA0183	2-propenoic acid, 2-(1,1-dimethylethyl)-6-((3-(1,1-dimethylethyl)-2-hydroxy-5-methylphenyl)methyl)-4-methylphenyl ester	61167-58-6	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	6 (SML)			
FCA0184	2-propenoic acid, 2-(1-(3,5-bis(1,1-dimethylpropyl)-2-hydroxyphenyl)ethyl)-4,6-bis(1,1-dimethylpropyl)phenyl ester	123968-25-2	PE, PP: 0.3; PS: 1; ABS:0.5	5 (SML)			
FCA0188	2-ethylhexyl prop-2-enoate; 2-hydroxyethyl 2-methylprop-2-enoate; methyl 2-methylprop-2-enoate	40704-95-8	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand	0.05 (2-propenoic acid-2-ethylhexyl ester: SML)	6	23	
FCA0189	2-propenoic acid, 2-ethylhexyl ester, polymer with ethenylbenzene	25153-46-2	PMMA: 0.5	0.05 (2-propenoic acid, 2-ethylhexyl ester: SML)			
FCA0191	Homopolymer of 2-propenoic acid	9003-01-4	PA, PC, PET: used appropriately according to the production demand		6	22	
FCA0192	Homopolymer of 2-butyl acrylate	9003-49-0	PA, PC, PET: used appropriately according to the production demand		6	22	
FCA0195	2-hydroxyethyl 2-methylprop-2-enoate; 2-methylenhexanoate; methyl 2-methylprop-2-enoate	25951-39-7	PA, PC, PET:, Used appropriately according to the production demand		6 (calculated in propenoic acid); 6 (calculated in methylpropenoic acid)	22; 23	
FCA0198	Polymer of 2-butyl acrylate and ethenyl acetate	25067-01-0	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand	12 (SML, ethenyl acetate)	6	22	
FCA0200	Telomer of 2-methyl acrylate and C16~C18 alkyl-1-dodecyl mercaptan ester	174254-30-0	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	0.5% (QM, mass fraction)	6	22	
FCA0206	Poly(propenoic acid-co-maleic acid), sodium salt	52255-49-9	Used appropriately according to the production demand		30(calculated in maleic acid); 6 (calculated in propenoic acid)	3; 22	
FCA0221	2-propenoic acid, polymer with vinyl benzene and (1-methyl vinyl)-benzene	52831-04-6	PA, PC, PET: used appropriately according to the production demand		6	22	
FCA0223	2-acryloylamino-2-methyl-1-propanesulfonic acid	15214-89-8	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	0.05 (SML)			
FCA0234	Copolymer of 2-methyl-2-propenoic acid-2-propenyl ester together with propenoic acid, methyl-, methyl ester and styrene	-	PA, PC, PET: used appropriately according to the production demand	0.05 (2-methyl-2-propenoic acid-2-propenyl ester: SML); ND (acrylonitrile: SML, DL=0.01 mg/kg)	6	23	
FCA0235	Copolymer of 2-methyl-2-propenoic acid-2-propenyl ester together with butyl acrylate, methylpropenoic acid and styrene	-	PA, PC, PET: used appropriately according to the production demand	0.05 (2-methyl-2-propenoic acid-2-propenyl ester: SML)	6 (calculated in propenoic acid); 6 (calculated in methylpropenoic acid)	22; 23	
FCA0238	2-propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate and 2-propenoic acid, 2-methyl-, methyl ester	25322-99-0	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand			22; 23	
FCA0240	2-methyl-2- propenoic acid oxiranylmethyl ester and polymer with propenoic acid methyl ester and dichloroethene	54975-10-9	PS, ABS: used appropriately according to the production demand	0.02(2-methyl-2- propenoic acid oxiranylmethyl ester: SML); 5 (1, 1-	6	22	Where reaction may occur between 2-methyl-2-propenoic acid oxiranylmethyl

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
				dichloroethene: QM) or ND (1, 1-dichloroethene: SML, DL=0.01 mg/kg)			ester and the foods or food simulants it contacts, 0.02mg/6dm ² (QM) is regarded as its limit value.
FCA0247	2-propenoic acid, 2-methyl-, methyl ester, polymer with butyl 2-propenoate and 2-propenyl 2-methyl-2-propenoate	50658-01-0	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand	0.05 (methylpropenoic acid acrvlonitrile: SML)	6 (calculated in propenoic acid); 6(calculated in methylpropenoic acid)	22; 23	
FCA0248	2-propenoic acid, 2-methyl-, methyl ester, polymer with 2-ethyl acrylate, <i>N</i> -hydroxymethyl-2- acrylamide and 2-acrylamide	-	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand	ND (acrylamide , SML, DL=0.01 mg/kg); ND (N-methylol acrylamide, SML, DL=0.01 mg/kg)	6 (calculated in propenoic acid); 6 (calculated in methylpropenoic acid)	22; 23	
FCA0249	2-propenoic acid, 2-methyl-, methyl ester, polymer with ethyl 2-propenoate and 2-methyl-2-propenamide	30394-86-6	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand	ND (methacrylamide SML, DL=0.01 mg/kg)	6 (calculated in propenoic acid); 6(calculated in methylpropenoic acid)	22; 23	
FCA0250	2-propenoic acid, 2-methyl-, methyl ester, polymer with 2-methyl-2-propenoic acid ethylene oxide ester and styrene	29564-58-7	Used appropriately according to the production demand	0.02 (2-methyl-2-propenoic acid ethylene oxide ester: SML)	6	23	Where reaction may occur between 2-methyl-2-propenoic acid ethylene oxide ester and the foods or food simulants it contacts, 0.02mg/6dm ² (QM) is regarded as its limit value.
FCA0253	2-propenoic acid, 2-methyl-, methyl ester, polymer with divinyl benzenebenzene (1:1)	9017-37-2	PP: 0.5	ND (SML, calculated in the sum of divinyl benzene and ethyl vinyl benzene, DL=0.01 mg/kg)	6	23	The content of 2-propenoic acid, 2-methyl-, methyl ester is higher than 50%. The content of ethyl vinyl benzene in divinyl benzene is not higher than 45%.
FCA0254	2-propenoic acid, 2-methyl-, methyl ester, polymer with ethyl-2-acrylate and 2-propenoic acid	25135-39-1	PA, PC, PET: used appropriately according to the production demand		6 (calculated in propenoic acid); 6 (calculated in methylpropenoic acid)	22; 23	
FCA0262	2-methyl-2-propenoic acid, polymer with butyl 2-propenoate, styrene and 2-propenoic acid, 2-methyl-, methyl ester	25987-66-0	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand		6 (calculated in propenoic acid); 6(calculated in methylpropenoic acid)	22; 23	
FCA0265	2-methyl-2-propenoic acid, polymer with 2-ethyl acrylate and 2-propenoic acid	30351-73-6	Used appropriately according to the production demand		6 (calculated in propenoic acid); 6 (calculated in methylpropenoic acid)	22; 23	
FCA0266	Copolymer of 2-methyl-2-propenoic acid with 2-ethyl acrylate and 2-propenoic acid, 2-methyl-, methyl ester	25133-97-5	PA, PC, PET: used appropriately according to the production demand		6 (Calculated in propenoic acid); 6(calculated in methylpropenoic acid)	22; 23	
FCA0267	Polymer of 2-methyl-2-propenoic acid with 2-propenoic acid, 2-methyl-, butyl ester 2-propenoic acid, 2-methyl-, methyl ester	28262-63-7	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand		6	23	
FCA0269	Polymer of 2-methyl-2-propenoic acid and 2-propenoic acid, 2-methyl-, methyl ester	25086-15-1	PA, PC, PET: used appropriately according to the production demand		6	23	
FCA0275	Polymer of 2-methyl-2-propenoic acid and propenoic acid, ammonium salt	28205-96-1	Used appropriately according to the production demand		6 (calculated in propenoic acid); 6 (calculated in methylpropenoic acid)	22; 23	

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
					acid)		
FCA0278	2-methyl -4,6-2[(octyl and sulfenyl) methyl] phenol	110553-27-0	PE, PP: 5; PS, AS, ABS: 0.2		5	24	
FCA0284	Polymer of 2-methylpropenoic acid with 2-methylpropenoic acid ethyl ester and methyl acrylate	65859-05-4	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand		6 (calculated in propenoic acid); 6(calculated in methylpropenoic acid)	22; 23	
FCA0289	Reaction product of 2-hydroxyl-1,2,3-tricarballic acid lithium salt and vermiculite	110638-71-6	PE, PP, PS, AS, ABS, PET, PC: used appropriately according to the production demand				SML of lithium element shall meet those specified in Appendix C
FCA0294	2-hydroxy-4-(octyloxy)benzophenone	1843-05-6	PE, PP, AS, ABS, PET: 0.5; PC: 3.8		6	8	
FCA0295	2-hydroxybenzoicacid-4-(1,1-dimethylethyl)phenylester	87-18-3	PP, PE, PS, PVC, PA, PC, ABS, AS, PET, UP: used appropriately according to the production demand	12 (SML)			
FCA0297	2-cyano-3,3-diphenyl-2-propenoic acid-2,2-bis (2-cyano-1-oxo-3,3-diphenyl-2-propenyl) oxymethyl-1,3-propilidene ester	178671-58-4	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PEI, PPE, PBT: 0.5	0.05 (SML)			
FCA0298	2-cyano-3,3-diphenyl-2-propanoic acid 2-ethylhexyl ester	6197-30-4	PET: 0.5; PVC: 0.3	0.05 (SML)			
FCA0299	2-cyano-3,3-diphenyl-2-propanoic acid 2-ethyl acrylate	5232-99-5	PVC: 0.3	0.05 (SML)			
FCA0300	2-mercaptoethanol	60-24-2	PVC: 0.02; ABS: 0.08				
FCA0304	2-oxepanone, homopolymer	24980-41-4	ABS: 5	0.05 (2-oxepanone, SML)			
FCA0305	1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with 1,1'-methylenebis[4-isocyanatobenzene]	27967-69-7	PA, PET: used appropriately according to the production demand	1 (calculated in isocyanato, QM)	ND (DL=0.01 mg/kg)	17	
FCA0306	2-ethyl hexanol	104-76-7	ABS, AS, PA, PC, PE, PET, PP, PS, PVC, PVDC, UP: used appropriately according to the production demand	30 (SML)			
FCA0307	Calcium 2-ethylcaproate	136-51-6	PVC: 3				The usage temperature of the produced materials and products is lower than 130℃
FCA0308	Magnesium 2-ethylhexanoate	15602-15-0	PVC: 2				
FCA0311	Zinc 2-ethylhexanoate	136-53-8	PE, PP: 1; PS: 0.1				SML of zinc element shall meet those specified in Appendix C
FCA0312	Benzenepropanoic acid, 3-(1,1-dimethylethyl)-.beta.-[3-(1,1-dimethylethyl)-4-hydroxyphenyl]-4-hydroxy-.beta.-methyl-, 1,2-ethanediyl ester	32509-66-3	PE, PP: 0.5	6 (SML)			
FCA0313	3-(2-benzothiazolyl)-7-(diethylamino)-2-oxo-2 <i>H</i> -1-Benzopyran-4-carbonitrile	70546-25-7	PET: 0.2				Shall comply with the purity requirements of colorant, see notes
FCA0318	Dilauryl 3,3'-thiodipropionate	123-28-4	PE, PP, PS, AS, ABS, PET, PC: 0.5; PVC, PVDC, PBT, POM, PA, TPC-ET: used appropriately according to the production demand		5	14	
FCA0319	3,3-thiodipropionic acid di-n-octadecyl ester	696-36-7	PE, PP, PS, AS, ABS, PET, PC, PVC, PVDC: 0.5		5	14	
FCA0320	3,3-bis(methoxy-methyl)-2,5-dimethylhexane	129228-21-3	PP: 0.32	0.05 (SML)			
FCA0322	3,4-dihydro-2,5,7,8-tetramethyl-2-(4,3,12-trimethyltridecyl)-2 <i>H</i> -1-benzopyran-6-ol; <i>dl</i> - α -Vitamin E	10191-41-0	PE, PET, PP, PA, PS, PC, AS, ABS, PVC, PVDC, UP: used appropriately according to the production demand				
FCA0323	3,4-benzenediol, diacetate-1-butene	18085-02-4	EVOH: 6.73; PVOH: 10.79	0.05 (calculated in 3,4-benzenediol, diacetate-1-butene and its hydrolysate 3,4-			

FCA No.	English name	CAS No.	Use scope and maximum level/%	SML/QM/(mg/kg)	SML (T)/(mg/kg)	SML (T) Group No.	Other requirements
				dihydroxyl-1-butene, SML)			
FCA0325	Hexadecyl 3,5-di-tert-butyl-4-hydroxy-benzoate	67845-93-6	PP, PE: 0.5				
FCA0327	2,4-di-tert-butylphenyl 3,5-di-tert-butyl-4-hydroxybenzoate	4221-80-1	PE, PP: 0.3				
FCA0328	3,6,9-triethyl-3,6,9-trimethyl-1,2,4,5,7,8-hexoxonane	24748-23-0	PE: 0.05; PP: 0.1				The PE thickness is not greater 0.12mm. Peroxide is not detectable in final product.
FCA0329	4,8,10-tetraoxa-3,9-diphosphaspiro [5.5] undecane	80693-00-1	PE, PP, PS: 0.25; ABS, PA, PET: 0.5; PC: 0.1	5 (calculated in the sum of phosphate and phosphite, SML)			
FCA0330	3,9-bis(octadecyloxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	3806-34-6	PE, PP: 0.3; PVC: 1; PS, ABS, AS: 0.25; PC: used appropriately according to the production demand				
FCA0331	3,9-bis(2,4-di-tert-butylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	26741-53-7	PP, PE: 0.1; PC, ABS: 0.2; PVC: 0.86	0.6 (SML)			
FCA0332	3,9-bis(2,4-dicumylphenoxy)-2,4,8,10-tetra-oxa-3,9-diphosphaspiro[5.5]undecane	154862-43-8	PE, PP, PS, AS, ABS, PA, PET, PVC, PPE, PBT: 0.15; PC: 0.2; PEI: 0.3	5 (SML)			
FCA0333	Benzenepropanoic acid, 3-(1,1-dimethylethyl)-4-hydroxy-5-methyl-, 2,4, 8, 10-tetraoxaspiro[5.5]undecane-3,9-diylbis(2,2-dimethyl-2,1-ethanediyl) ester	90498-90-1	PE, PP: 0.3; ABS, PA: 0.5	0.05 (SML)			
FCA0337	3-hydroxy-2-(3-hydroxy-2-quinoliny)-1H-inden-1-one	17772-51-9	PET: 0.2				Shall comply with the purity requirements of colorant, see notes
FCA0340	Phenol, 4,4'- (1-methylethylidene)bis-, polymer with (chloromethyl)oxirane	25068-38-6; 25085-99-8	PE, PP: used appropriately according to the production demand	0.6 (bisphenol A: SML); 1 (epoxy chloropropane: QM); ND (epoxy chloropropane: SML, DL=0.01 mg/kg)			It shall not be used to produce food contact materials or their products special for infants
FCA0341	4,4'-bis(2-benzoxazoly)stilbene	1533-45-5	PE, PP, PS, AS, ABS, PA, PET, PC, PVC, PVDC: 0.025	0.05 (SML)			Shall comply with the purity requirements of colorant, see notes
FCA0343	4,4'-thiobis(6-tert-butyl-m-cresol)	96-69-5	PE: 0.05; PP, ABS: 0.3; PS, AS: 0.6	0.48(SML)			
FCA0344	Phosphorous acid, butylidenebis[2-(1,1-dimethylethyl)-5-methyl-4,1-phenylene] tetratridecyl ester	13003-12-8	PP, PE, PS, ABS, PVC: 0.5; PC: used appropriately according to the production demand	6 (SML)			
FCA0345	4,4'-butane-1,1-diylbis(2-tert-butyl-5-methylphenol)	85-60-9	PE: 0.5; PP: 0.3				The produced materials or products are only used for contacting dry solid foods, nonalcoholic beverages and water-based foods without free fat
FCA0347	4,5,6,7,8,8-hexachloro-3a,4,7,7a-tetrahydro-4,7-methano-2-benzofuran-1,3-dione	115-27-5	PE, PP: 1.7	ND (SML, DL=0.01 mg/kg)			
FCA0348	Disodium,4,5-dichloro-2-[[4,5-dihydro-3-methyl-5-oxo-1-(3-sulphonatophenyl)-1H-pyrazol-4-yl]azo]benzene-sulphonate	65212-76-2	PE, PP: 0.1				Shall comply with the purity requirements of colorant, see notes
FCA0350	2,6-di-tert-butyl-4-(4,6-bis(octylthio)-1,3,5-triazin-2-ylamino)phenol	991-84-4	PP: 0.3; PS, ABS: 0.5; AS: 0.1	30 (SML)			
FCA0352	2-naphthalenesulfonic acid, 4-hydroxy-3-2-methoxy-5-methyl-4-(4-sulfophenyl)azophenylazo-7-(phenylamino)-, compd. with nitrilotris(2,1-ethanediyl)oxytrispropanol (1:2)	124649-82-7	PE, PP, PS, AS, ABS, PET, PC: used appropriately according to the production demand				Shall comply with the purity requirements of colorant, see notes
FCA0354	Methyl 4-cyano-5-[[5-cyano-2,6-bis[(3-methoxypropyl)amino]-4-	72968-71-9	PS, AS, ABS, PC, PVC: used appropriately according				Shall comply with the purity

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----