



H&M GROUP CHEMICAL RESTRICTIONS 2023

RESTRICTED SUBSTANCES LIST (RSL)

Food Contact Products

Group Compliance Valid for all brands in the H&M Group.

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General

H&M Group has with concern for the health of customers as well as for the environment and working conditions, established H&M Group Chemical Restrictions for all products. H&M Group Chemical Restrictions consist of several parts with regard to different product types; this document concerns Chemical Restrictions for Food Contact Products. Each limit in H&M Group Chemical Restrictions is valid for homogeneous parts of the concerned product if not otherwise stated. Test methods are specified in relevant part in document. In case of undated test method, the latest version is valid.

All official documents related to chemical compliance are available on the Supplier Portal as well as on the [H&M Group Website for Sustainability](#)

Please find out more about H&M Group Chemical Management [here](#).

The official and valid version of this document is in English. Any translation of the document is prepared for reference only. H&M Group accepts no liability for any mistakes done in the translation.

Commitment

By accepting H&M Standard Purchase Conditions, the Supplier commits to comply with H&M Group Chemical Restrictions. It is the Supplier's responsibility to assure compliance with H&M Group Chemical Restrictions and to inform all their upstream suppliers and subcontractors about the content of H&M Group Chemical Restrictions.


By accepting H&M Standard Purchase Conditions, each Supplier acknowledges that H&M Group reserves the right to:

- Inspect and test any product, any part of production and/or packaging, by any listed or appropriate method, at any time or at any stage of production.
- Cancel the order, or, if the products are already delivered, return the products to the Supplier if the product, production and/or packaging do not correspond to the H&M Group Chemical Restrictions.
- Hold the Supplier responsible for any damage caused by the ordered product if the product, production and/or packaging do not correspond to the H&M Group Chemical Restrictions.
- Receive the Safety Data Sheets (SDS) for all substances and preparations (dyes, colorants, solvents, chemicals etc.) used in the production of a specific Order.

In the case of contradictory test results, H&M test results will prevail.

Examples

All details on your product must comply with H&M Chemical Restrictions, see example below. The examples do not claim to be complete.

	<h3>Food Contact Products</h3> <ul style="list-style-type: none"> • Food contact materials are materials that are intended to be in contact with food or can reasonably be expected to be brought into contact with food. • All products intended for food contact (or can reasonably be expected to be brought into contact with food) such as cups, plates, chopping boards etc. shall follow the restrictions for each material. • Food contact products in textile material must also follow H&M Group Chemical restrictions Textile products, Accessories, Footwear, Bags and Belts. • A food contact product which have integrated parts which for obvious reasons will not come in contact with food, that part must follow H&M Group Chemical restriction for applicable material and product type (e.g. H&M Group Chemical restriction Hardline) • If a product is sold in a packaging, it must also comply with H&M Group Chemical Restrictions Non-Commercial Goods (NCG), Construction and Packaging.
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Definitions

Concentration Limit	The substance must not be present in the product at concentrations above this limit.
Not Detected	The substance must not be present in the finished product at concentrations above the analytical reporting limit.
Usage ban	The substance must not be used in production and it must not be added to the product. ¹
Organoleptic	Refers to any sensory property of a product, including smell, taste, color and feel.
Substances defined as hazardous due to intrinsic properties	Persistent, bioaccumulative and toxic (PBT), very persistent and very bioaccumulative (vPvB), carcinogenic, mutagenic and toxic for reproduction (CMR), endocrine disruptors (ED) or equivalent concern

Abbreviations

CAS no	Chemical Abstracts Service number, an identification number for chemicals in this database.
CFR	Code of Federal Regulations
GMP	Good Manufacturing Practice
ppm	Parts per million, which is the same as mg/kg.
Percentage	Percentage is weight by weight, % w/w
PFAS	Perfluoroalkyl and polyfluoroalkyl substances: Fluorinated substances that contain at least one fully fluorinated methyl or methylene carbon atom (without any hydrogen, chlorine, bromine or iodine atoms attached to it)
PFCs	Perfluorinated and polyfluorinated chemicals
REACH	Registration, Evaluation, Authorization and restriction of Chemicals
SML	Specific Migration Limit in food or in food simulants.
SML(T)	Total Specific Migration Limit in food or in food simulants. SML(T) is the maximum permitted amount of a given substance originating from the release of several given substances from a material or article into food or food simulants.

¹ Impurities at low concentrations of these substances may be accepted only if technically unavoidable due to e.g. raw materials, formation in the manufacturing process, storage or packaging.

Requirements – all Food Contact Materials

If a group of substances is marked with an asterisk* in the tables below, each included substance is specified in Appendix.

Requirement/Restricted substance	Limit/Requirement
Europe; Food Contact Products Framework Regulation and GMP	All Food Contact products must comply with EU Framework Regulation concerning Food Contact Products no 1935/2004 ² and all regulations, directives and amendments under this framework regulation ³ . All Food Contact products must comply with Good Manufacturing Practice, Regulation 2023/2006 ⁴ .
USA; US legislation for food contact materials governed by the Food and Drug Administration (FDA)	All substances in Food Contact Products must be Generally Recognized As Safe (GRAS) and comply with the indirect additive database in Title 21 of the U.S Code of Federal Regulations (21 CFR) Parts 174, 175, 176, 177, 178.
China	All Food contact materials and articles must comply with GB4806.1 National Standard of Food Safety, General safety requirements of food contact materials and articles. Additives used shall comply with the provisions in GB 9685 National Food Safety Standard- Standard for the use of additives for food contact materials and articles.
South Korea	All Food Contact products must comply with South Korean Food Code Article 7 for standards and specifications for food utensils, containers and packages.
Japan	All Food contact products must comply with the Japanese food safety regulations, based on Food safety basic law (2003) and Food Sanitation law (1947). All food contact products must be tested at an official MHLW registered laboratory ⁵ who will issue certificate of analysis showing compliance with the Food sanitation law.
Taiwan	All Food contact products must comply with the Food Sanitation Act and Taiwan's Sanitary Standard for Food Utensils, Containers and Packages.
Kazakhstan	All food contact products must comply with applicable GOST standards specified in this document.
Uruguay	All Food Contact products must comply with General criteria for food packaging and equipment in contact with food GMC Resolution number 03/92 and requirements in Decree 215/994.
Requirement	Limit
H&M Group Production and Documentation Requirements for Food Contact products⁶	Production must follow H&M Group Production and Documentation Requirements for Food Contact products which includes requirements for good manufacturing practices (GMP), testing of food contact products, test methods, documentation and declaration of compliance.
H&M Group Chemical Restrictions – Non-Commercial Goods (NCG), Construction and Packaging	If a food contact product is sold in a packaging, it must also comply with H&M Group Chemical Restrictions Non-Commercial Goods (NCG), Construction and Packaging.

³ Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food

³ http://ec.europa.eu/food/food/chemicalsafety/foodcontact/index_en.htm

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02006R2023-20080417>

⁵ A list of the official MHLW registered laboratories can be found at the following MHLW website:
<http://www.mhlw.go.jp/english/topics/importedfoods/1-10.html>

⁶ Download the document at H&M Group Supplier Portal

H&M Group Chemical restrictions - Textile products, Accessories, Footwear, Bags and Belts.	Food contact products in textile material must also follow H&M Group Chemical Restrictions Textile products, Accessories, Footwear, Bags and Belts.
Substances of very high concern (SVHC) ⁷	1000 ppm, except if lower limit applies as per other parts of this document. Check the ECHA website for the updated list
Substances defined in REACH Article 57⁸ as hazardous due to the intrinsic properties: <ul style="list-style-type: none"> - Carcinogenic, Mutagenic or toxic to Reproduction (CMR) category 1A/1B, - Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bioaccumulative (vPvB), - Causing probable serious effects to human health or the environment of an equivalent level of concern as those above (e.g. endocrine disrupters) 	1000 ppm, except if lower limit applies as per other parts of this document.
Sensory/ organoleptic properties	No change in sensory properties (smell and/or taste) of food. Shall be controlled with Sensory analysis. Not worse than Grade 2.5
Restricted materials/substance	Limit
Polycarbonate (PC) Plastic	Usage ban
Polystyrene (PS) Plastic	Usage ban
Acrylonitrile butadiene styrene (ABS)	Usage ban
Polyvinylchloride (PVC)	Usage ban
Recycled rubber	Usage ban
Recycled plastic	Usage ban
Bisphenol A (BPA)	Usage ban
Bisphenol S (BPS)	
Bisphenol F (BPF)	
Biocides of all kinds (e.g. wood preservatives, antifungi functions, in-can preservatives etc.)	Are not allowed to be used without approval by H&M Group ⁹ .
Polychlorinated biphenyls (PCB)	Usage ban
Azo dyes and pigments*	Usage ban
Per- and poly-fluorinated chemicals (PFCs/PFASs)*	Usage ban
Phthalates*	Usage ban
Asbestos	Usage ban
Nanomaterials “Nanomaterial” means a natural,	Usage ban

⁷ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

⁸ <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02006R1907-20150601&from=EN>

⁹ Contact your local H&M Production Office

incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50% or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm-100 nm.” ¹⁰	
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¹⁰ European commission recommendation on the definition of nanomaterial (2011/696/EU), Official Journal of the European Union, 20.10.2011.

Requirements - based on material type

Ceramic, Glass & Enamel

EU		
Ceramic		
Restricted substance	Limit/Requirement	Test method
Category 1 Flatware		
Articles which cannot be filled and articles which can be filled where the internal depth ≤ 25 mm		
Lead (Pb)	0.8 mg/dm ²	EN 1388-1
Cadmium (Cd)	0.07 mg/dm ²	
Zinc (Zn)	3 mg/article	
Barium (Ba)	1 mg/article	
Antimony (Sb)	1 mg/article	
Cobalt (Co)	0.02 mg/kg	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours, 3 successive migrations and take the 3 rd migration results.
Aluminium (Al)	1 mg/kg	
Arsenic (As)	0.002 mg/kg	
Category 2		
Articles that can be filled		
Lead (Pb)	0.5 mg/l	EN 1388-1
Cadmium (Cd)	0.2 mg/l	
Zinc (Zn)	3.0 mg/article (internal volume ≤1L) or, 3.0 mg/l (internal volume > 1L)	
Barium (Ba)	1.0 mg/article (internal volume ≤1L) or, 1.0 mg/l (internal volume > 1L)	
Antimony (Sb)	1.0 mg/article (internal volume ≤1L) or, 1.0 mg/l (internal volume > 1L)	
Cobalt (Co)	0.02 mg/kg	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours, 3 successive migrations and take the 3 rd migration results.
Aluminium (Al)	1 mg/kg	
Arsenic (As)	0.002 mg/kg	
Category 3		
Cooking ware; packaging and storage vessels having a capacity > than 3L		
Lead (Pb)	0.5 mg/l	EN 1388-1
Cadmium (Cd)	0.1 mg/l (for storage ware > 3l) 0.05 mg/l (for cooking ware)	
Zinc (Zn)	3.0 mg/article (internal volume ≤1L) or, 3.0 mg/l (internal volume > 1L)	EN 1388-1
Barium (Ba)	1.0 mg/article (internal volume ≤1L) or, 1.0 mg/l (internal volume > 1L)	
Antimony (Sb)	1.0 mg/article (internal volume ≤1L) or, 1.0 mg/l (internal volume > 1L)	
Cobalt (Co)	0.02 mg/l	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours, 3 successive migrations and take the 3 rd migration results.
Aluminium (Al)	1 mg/kg	
Arsenic (As)	0.002 mg/kg	

EU		
Glass		
Global migration	8 mg/dm ² or, 50 mg/kg	Decreto Ministeriale del 21/3/1973, Capo V – Oggetti di Vetro
Category 1 Flatware		
Articles which cannot be filled and articles which can be filled where the internal depth ≤ 25 mm		
Lead (Pb)	0.8 mg/dm ²	ISO 6486-1
Cadmium (Cd)	0.07 mg/dm ²	
Cobalt (Co)	0.02 mg/kg	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours, 3 successive migrations and take the 3 rd migration results.
Aluminium (Al)	1 mg/kg	
Arsenic (As)	0.002 mg/kg	
Category 2		
Articles that can be filled		
Lead (Pb)	0.5 mg/l	ISO 6486-1
Cadmium (Cd)	0.2mg/l	
Cobalt (Co)	0.02 mg/kg	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours, 3 successive migrations and take the 3 rd migration results.
Aluminium (Al)	1 mg/kg	
Arsenic (As)	0.002 mg/kg	
Category 3		
Cooking ware; packaging and storage vessels having a capacity > than 3L		
Lead (Pb)	0.5 mg/l (for storage ware > 3l) 0.5 mg/l (for cooking ware)	ISO 6486-1 and ISO 8391-1 (ceramic cookware, test method; release of lead and cadmium)
Cadmium (Cd)	0.1 mg/l(for storage ware > 3l) 0.05 mg/l(for cooking ware)	
Cobalt (Co)	0.02 mg/l	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours, 3 successive migrations and take the 3 rd migration results.
Aluminium (Al)	1 mg/kg	
Arsenic (As)	0.002 mg/kg	
Drinking rim		

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EU Enamel		
Restricted substance	Limit	Test method
Arsenic (As)	0.001mg/kg	Regeling van de Minister van Volksgezondheid, Welzijn van 14 maart 2014, kenmerk 328583-117560-VGP, Warenwetregeling verpakkingen en gebruiksartikelen.
Boron (B)	1 mg/kg	
Chromium (Cr)	0.1 mg/kg	
Cobalt (Co)	0.02 mg/kg	
Mercury (Hg)	0.005 mg/kg	
Rubidium (Rb)	1 mg/kg	
Selenium (Se)	0.01 mg/kg	
Strontium (Sr)	1 mg/kg	
Aluminium (Al)	1 mg/kg	ISO 4531
Antimony (Sb)	0,04 mg/kg	
Barium (Ba)	1,2 mg/kg	
Cadmium	0,005 mg/kg	
Copper (Cu)	4 mg/kg	
Lithium (Li)	0,48 mg/kg	
Lead (Pb)	0,01 mg/kg	
Manganese (Mn)	1,8 mg/kg	
Molybdenum (Mo)	0,12 mg/kg	
Nickel (Ni)	0,14 mg/kg	
Silver (Ag)	0,08 mg/kg	
Vanadium (Vd)	0,01 mg/kg	
Zinc (Zn)	5 mg/kg	

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US

Ceramic & Enamel

U.S. FDA Code of Federal Regulations Title 21 (Food and Drugs) - 21 CFR 174.5 – General provisions applicable to indirect food additives.

FDA Compliance Policy Guides Manual section 545.400 (CPG 7117.06 for Cd) & section 545.450 (CPG 7117.07 for Pb), test method ASTM C 738-94(2016) and for cookware AOAC Official Method 984.19, followed by ICP-MS.

California Proposition 65 lead and cadmium in ceramic tableware products

Guide to heavy metal limits from the Society of Glass & Ceramic Decorated Products (SGCDpro for lip and rim), test method ASTM C 927:1980(2014)

Category	Restricted substance/Limit			
	Cadmium (Cd) mg/l		Lead (Pb) mg/l	
	US FDA	Prop 65	US FDA	Prop 65
Flatware (depth < 25mm) Plates, Saucers – internal depth as measured from the lowest point to the horizontal plane passing through the upper rim	0.5	1.853	3.0	0.226
Cups/mugs	0.5	0.189	0.5	0.100
Small Hollowware (< 1.1 liter)	0.5	0.189	2.0	0.100
Large Hollowware (≥ 1.1 Liter)	0.25	0.049	1.0	0.100
Pitchers (≥ 1.1 Liter) Vessels used for juices or other acid beverages at or below room temperature. Creamers, coffeepots, and teapots are not considered to be pitchers. Depending on capacity, creamers, coffeepots and teapots will be considered small or large hollowware	0.5	0.049	0.5	0.100
Cooking ware	0.01	-	0.1	-
Lip and Rim area of ceramic drinking vessels with exterior decorations within 20 mm of the rim	0.4	0.4	4.0	0.5
Enamel Coatings				
Must comply with 21CFR 175.300				

US; Glass Must comply with California Proposition 65 lead and cadmium in glassware products				
Category	Restricted substance/Limit			
	Cadmium (Cd) mg/l		Lead (Pb) mg/l	
	US FDA	Prop 65	US FDA	Prop 65
Lip and Rim area of glass drinking vessels with exterior decorations within 20 mm of the rim	0.4	800	4.0	200
Exterior decoration (Adult use)	/	4.0 mg	/	1.0 mg
Exterior decoration (Infant/child use)	/	2400	/	600

China Enamel, Ceramic and Glass Must comply with China’s mandatory material GB Standards relating to Enamel, Ceramic and Glass Migration tests shall comply with the provisions of GB31604.1 and GB 5009.156 unless otherwise stated in respective material standard.								
Requirement	Limit/Requirement					Material Standard	Test standards /inspection method	
Enamel ware								
	Non-cooking ware		Cooking ware		Storage ware ≥ 3L (mg/dm²)	GB 4806.3 Food Safety National Standards - Enamel ware		
	Flatware (mg/dm²)	Hollowware (<3L) (mg/L)	Flatware (mg/dm²)	Hollowware (<3L) (mg/L)				
Lead (Pb)	0.8	0.8	0.1	0.4	0.1		GB31604.34	
Cadmium (Cd)	0.07	0.07	0.05	0.07	0.05		GB31604.24	
Ceramic ware								
	Flatware (mg/dm²)	Storage ware ≥ 3L (mg/L)	Large hollowware (mg/L)	Small hollowware (mg/L)	Cup and mug (mg/L)	Cookin g ware (mg/L)	GB 4806.4 Food Safety National Standards - Ceramic ware	
Lead (Pb)	0.8	0.5	1.0	2.0	0.5	3.0	GB31604.34	
Cadmium (Cd)	0.07	0.25	0.25	0.30	0.25	0.30	GB31604.24	
Glass ware								
	Flatware (mg/dm²)	Storage ware ≥ 3L (mg/L)	Large hollowware (mg/L)	Small hollowware (mg/L)	Cooking ware (mg/L)	Lip and	GB 4806.5	

						rim (mg/L)	Food Safety National Standards - glassware	
Lead (Pb)	0.8	0.5	0.75	1.5	0.5	4.0		GB31604.34
Cadmium (Cd)	0.07	0.25	0.25	0.5	0.05	0.4		GB31604.24

South Korea & Japan

Ceramic and Pottery

KR: Ministry of Food and Drug Safety - Standards and Specifications for Food Utensils, Containers and Packaging, methods 2-1, 2-2 and 2-9

JP: Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336

Category	Restricted substance/Limit		
	Cadmium (Cd) mg/l	Lead (Pb) mg/l	Arsenic (As) mg/l
Flatware (depth ≤ 25mm)	0.07 (mg/dm ²) JP only	0.8 (mg/dm ²) JP only	N/A
Fillable article < 1.1 Liter	0.5	2.0	0.05 (as As ₂ O ₃) Limited to pottery
Fillable article 1.1 Liter ≤ capacity < 3 Liter	0.25	1.0	0.05 (as As ₂ O ₃) Limited to pottery
Storage ≥ 3 Liter	0.25	0.5	0.05 (as As ₂ O ₃) Limited to pottery
Cooking ware	0.05	0.5	0.05 (as As ₂ O ₃) Limited to pottery

South Korea & Japan

Glass

KR: Ministry of Food and Drug Safety - Standards and Specifications for Food Utensils, Containers and Packaging, methods 2-1 and 2-2

JP: Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336

Category	Restricted substance/Limit	
	Cadmium (Cd) mg/l	Lead (Pb) mg/l
Flatware (depth ≤ 25mm)	0.07 (mg/dm ²) JP only	0.8 (mg/dm ²) JP only
Fillable article < 600 ml	0.5	1.5
Fillable article 600 ml ≤ capacity < 3 Liter	0.25	0.75
Storage ≥ 3 Liter	0.25	0.5
Cooking ware	0.05	0.5

South Korea					
Enamel					
KR: Ministry of Food and Drug Safety - Standards and Specifications for Food Utensils, Containers and Packaging, methods 2-1, 2-2 and 2-9					
Category			Restricted substance/Limit		
			Cadmium (Cd) µg/ml	Lead (Pb) µg/ml	Antimony (Sb) µg/ml
For samples whose depth is over 2.5 cm when liquid is filled					
Other than heat-cooking ware capacity < 3 Liter			0.07	0.8	0.1
Heat cooking ware capacity < 3 Liter			0.07	0.4	0.1
Category			Restricted substance/Limit		
			Cadmium (Cd) µg/cm²	Lead (Pb) µg/cm²	Antimony (Sb) µg/ml
For sample whose depth is less than 2.5 cm					
Utensils, containers and packages of porcelain enamel	Samples depth ≥ 2.5 cm, capacity ≥ 3 Liter		0.5	1	1
	Samples depth < 2.5 cm	Other than cooking ware	0.7	8	1
		Cooking ware	0.5	1	1

Japan				
Enamel				
JP: Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336				
Category	Restricted substance/Limit			
			Cadmium (Cd) µg/cm ²	Lead (Pb) µg/cm ²
Enameled	Samples depth < 2.5 cm		Other than cooking ware	0.7
			Cooking ware	8
	Samples depth ≥ 2.5 cm	Capacity ≥ 3 Liter		0.5
		Capacity < 3 Liter	Other than cooking ware	1
			Cooking ware	0.8

Taiwan		
Ceramic, Glass & Enamel		
Taiwan Sanitation Standard for Food Utensils, Containers and Packages.		
Category	Restricted substance/Limit	
	Cadmium (Cd) mg/l	Lead (Pb) mg/l
Flatware (depth ≤ 25mm)	0.17 (mg/dm ²)	1.7 (mg/dm ²)
Fillable article < 1.1 Liter (depth > 25mm)	0.5	5
Fillable article > 1.1 Liter (depth > 25mm)	0.25	2.5

Concrete, Marble & Soapstone

EU		
Concrete, Marble & Soapstone		
Restricted substance	Limit	Test method
Cadmium (Cd)	0.07 (mg/dm ²)	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours, 3 successive migrations and take the 3 rd migration results.
Lead (Pb)	0.8 (mg/dm ²)	
Zinc (Zn)	3 mg/l	
Antimony (Sb)	1 mg/l	
Barium (Ba)	1 mg/l	
Aluminium (Al)	1 mg/kg	
Cobalt (Co)	0.02 mg/kg	
Arsenic (As)	0.002 mg/kg	

Metals and Alloys

EU		
Metals and Alloys		
Restricted substance	Limit	Test method
Sensory properties	No change in sensory properties (smell and/or taste) of food. Shall be controlled with Sensory analysis. Not worse than Grade 2.5.	Sensory analysis DIN 10955/ ISO 13302
Specific release for metals and alloys components [mg/kg food]		
Aluminium (Al)	5	Chapter 3, Annex I and II in Council of Europe Guide on metals and alloys used in food contact materials and articles
Antimony (Sb)	0.04	
Chromium (Cr)	0.1	
Cobalt (Co)	0.02	
Copper (Cu)	4	
Iron (Fe)	40	
Manganese (Mn)	0.6	
Molybdenum (Mo)	0.12	
Nickel (Ni)	0.14	
Silver (Ag)	0.08	
Tin (Sn)	0.05	
Vanadium (V)	0.01	
Zinc (Zn)	5	
Specific release for metals as contaminants and impurities [mg/kg food]		
Arsenic (As)	0.002	Chapter 3, Annex I and II in Council of Europe Guide on metals and alloys used in food contact materials and articles
Barium (Ba)	1.2	
Beryllium (Be)	0.01	
Cadmium (Cd)	0.005	
Lead (Pb)	0.010	
Lithium (Li)	0.048	
Mercury (Hg)	0.003	
Thallium (Tl)	0.0001	
Corrosion resistant	No visible evidence of blistering, peeling, cracking or red corrosion products	ASTM B117-11 or ISO 9227 Salt spray test
Additional requirements for organic coatings or varnishes on metal substrate		
Restricted substance	Limit	Test method
Overall migration limit	10 mg/dm² 60 mg/kg for infants and young children	EN1186
Specific migration of primary aromatic amines (PAA)	Sum of PAA: Not detectable (a detection limit of 0.01 mg/kg)	Migration with food simulant followed by LC-MS/MS EN13130-1

	- Individual PAA listed in REACH entry 43 to Appendix 8 of Annex XVII (detection limit of 0.002 mg/kg)	
Specific migration of polycyclic aromatic hydrocarbons (PAH)	Not detectable (a detection limit of 0.01 mg/kg)	Migration with food simulant followed by GC-MS
Monomers and other starting substances, additives, polymer production aids etc.	Comply with composition and specific migration positive list in - Regulation (EU) No 10/2011 - Resolution ResAP (2004) 1	Migration with food simulant followed by instrumental analysis
Epoxy coating		
Bisphenol A, Bisphenol F, Bisphenol S	Not allowed to be used (not detectable with detection limit of 0.1 mg/kg)	Extraction with organic solvent followed by LCMS/MS analysis
NOGE	Usage ban	EN 13130 or EN 15136
BFDGE	Usage ban	EN 13130 or EN 15136
BADGE and derivatives, total	≤9 mg/kg (sum)	EN 13130 or EN 15137
1,4-Butandiol	≤5 mg/kg	EN 13130
Phenol	≤3 mg/kg	EN 13130
Polyurethane (PU)		
Isocyanates*	Not detected	ISO 10283 (modified)
Peroxide	Not detected	Ph. Eur. Method 2.5.5
Dimethylformamide (DMF)	Usage ban	
Additional requirements for coloured organic coatings or varnishes on metal substrate		
Restricted substance	Limit	Test method
Colorfastness to food simulants	No color transition	Resolution AP (89) 1

Kazakhstan

Utensils of copper-nickel alloy, German silver and brass with chrome and nickel coating

Restricted substance	Limit	Standard
Copper	1 mg/dm ³	GOST 24308-80
Zinc	1 mg/dm ³	
Nickel	0.1 mg/dm ³	

China

Metal materials and articles

Migration tests shall comply with the provisions of GB31604.1 and GB 5009.156 unless otherwise stated in Appendix A in the material standard.

Requirement	Limit/Requirement	Material standard	Test standards/inspection method
Raw material requirement	1. Food contact metal, metallic plating, solder shall be of good quality and not contaminated with poisonous or hazardous substances, and thus	GB 4806.9 Food Safety	

	confirmed of their safety and integrity. 2. The composition of metal substrate and plating should meet the claim. 3. Stainless steel food containers and the main part of tools, machinery and apparatus for food production and management should be austenitic stainless steels, austenitic ferritic stainless steels, ferritic stainless steel; stainless steel tableware and the main parts of stainless steel drilling and grinding tools for food production machinery and apparatus, such as the main part of the mechanical equipment or martensite stainless steel can also be made of martensitic stainless steel materials.	National Standards - Metal materials and articles	
Sensory Requirement	Extraction solvent should have no smell.		
Extractable Heavy Metals Contents for metallic materials and articles	As ≤ 0.04 mg/kg		Part 2 of GB31604.38 or Part 2 of GB31604.49
	Cd ≤ 0.02 mg/kg		GB31604.24, or Part 2 of GB31604.49
	Pb ≤ 0.2 mg/kg		Part 2 of GB31604.34 or Part 2 of GB31604.49

South Korea, Japan & Taiwan;

Metals and Alloys

Restricted substance	Limit	Test method
Lead in tin plating used for food contact surface, Material Specification	≤ 0.1%	KR: Ministry of Food and Drug Safety - Standards and Specifications for Food Utensils, Containers and Packaging, methods 2-1 and 2-10. JP: Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Lead in materials used for food contact surface, Material Specification	≤ 0.1%	
Antimony in metals used for food contact surface, Material Specification	≤ 5.0%	
Food contact surface which are made of copper or copper alloy shall be properly treated with tin coating, silver coating or copper treatments to ensure hygiene and safety		
Lead, Migration Specification	≤ 0.4 mg/l	KR: Migration of lead, cadmium, nickel, chromium VI and arsenic. Ministry of Food and Drug Safety - Standards and Specifications for Food Utensils, Containers and Packaging, methods 2-1, 2-2, 2-54, 2-4 and 2-9. JP: Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Cadmium, Migration Specification	≤ 0.1 mg/l	
Nickel, Migration Specification	≤ 0.1 mg/l	
Chromium VI, Migration Specification	≤ 0.1 mg/l	
Arsenic, Migration Specification	≤ 0.2 mg/l (as As ₂ O ₃)	

Evaporation residue, Migration Specification	$\leq 30 \text{ mg/l}$ (90 mg/l^*) (n-heptane as leaching solution) $\leq 30 \text{ mg/l}^*$ (other simulants as leaching solution) Only for metallic products coated with synthetic resin or rubber *Limit shall be $\leq 90 \text{ mg/l}$ with n-heptane as leaching solution and paint film on metal is made of natural oil as main material and containing $> 3\%$ zinc oxide. *The chloroform soluble material shall be $\leq 30 \text{ mg/l}$ for the case when the non-volatile residue is $> 30 \text{ mg/l}$ when using water as leaching solution	KR: Migration of; evaporation residue, formaldehyde, vinyl chloride, epichlorohydrin, bisphenol A (including phenol and p-tert-butylphenol), bisphenol A diglycidyl ether, bisphenol F diglycidyl ether, 4,4-methylenedianiline and zinc. Ministry of Food and Drug Safety - Standards and Specifications for Food Utensils, Containers and Packaging, methods 2-8, 2-27, 2-16, 2-45, 2-35, 2-44, 2-31 and 2-50 JP: Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336 Taiwan method: Migration of Epichlorohydrin. Method of test for food utensils, containers and packages- test of metal cans.
Formaldehyde, Migration Specification	$\leq 4.0 \text{ mg/l}$ ND (Japan & TW) Only for metallic products coated with synthetic resin or rubber	
Vinyl Chloride, Migration Specification	Not detected $\leq 0.05 \text{ } \mu\text{g/ml}$ Only for metallic products coated with synthetic resin or rubber	
Epichlorohydrin, Migration Specification	$\leq 0.5 \text{ mg/l}$ Only for metallic products coated with synthetic resin or rubber	
Bisphenol A, Migration Specification	0.6 mg/l Only for metallic products coated with synthetic resin or rubber	
Sum of phenol, bisphenol A and p-tert-butylphenol, Migration Specification	$\leq 2.5 \text{ mg/l}$ (South Korea) Only for metallic products coated with synthetic resin or rubber	
Bisphenol A diglycidyl ether, Migration Specification (including bisphenol A diglycidyl ether dichloride and bisphenol A diglycidyl ether dihydrate)	$\leq 1.0 \text{ mg/l}$ (South Korea) Only for metallic products coated with synthetic resin or rubber	
Bisphenol F diglycidyl ether, Migration Specification (including bisphenol F diglycidyl ether dichloride and bisphenol F diglycidyl ether dehydrate)	$\leq 1.0 \text{ mg/l}$ (South Korea) Only for metallic products coated with synthetic resin or rubber	
4,4-Methylenedianiline, Migration Specification	$\leq 0.01 \text{ mg/l}$ (South Korea) Only for metallic products coated with synthetic resin or rubber	
Zinc, Migration Specification	$\leq 15 \text{ mg/l}$ (South Korea) Only for metallic products coated with synthetic resin or rubber	

Uruguay		
Metals & Stainless Steel		
Restricted substance	Limit	Standard
Raw material	Must meet the specifications and stainless-steel grade in chapter 3 of CMC Res. no. 46/06	GMC Res. no. 46/06
Sum of impurities of Lead, Arsenic, Cadmium, Mercury, Antimony and Copper.	1%	
Individual limit of impurities of Lead, Arsenic, Cadmium, Mercury, Antimony and Copper	0.01%	
Contaminated metals; Arsenic, Lead, Cadmium, Mercury, Tin	Arsenic 0.01 mg/kg Cadmium 0.01 mg/kg Lead 0.01 mg/kg Mercury 0.5 mg/kg Tin 150 mg/kg	GMC Res. no. 12/11
Manufacturing aids	Must comply with the positive lists and restrictions in chapter 3 of GMC Res. no. 46/06.	GMC Res. no. 46/06
Approved stainless steel composition check	Only approved stainless steel grades can be used for food contact applications	GMC Res. no. 46/06

Stainless steel

EU		
Restricted substance	Limit	Test method
Specific migration for metals and alloys components (mg/kg food)		
Aluminium (Al)	5	Chapter 3, Annex I and II in Council of Europe Guide on metals and alloys used in food contact materials and articles.
Antimony (Sb)	0.04	
Chromium (Cr)	0.250 0.1 mg/kg (Italy)	
Cobalt (Co)	0.02	Department of Biological Standardisation, OMCL Network & HealthCare (DBO) Consumer Health Protection RZ/PH/2013-06790L SBA/mfs Strasbourg, 18/11/2013:
Copper (Cu)	4	
Iron (Fe)	40	
Manganese (Mn)	1.8 0.1 mg/kg (Italy)	Italy: Specific migration of nickel, chromium and manganese For general use: 3% acetic acid (w/v) aqueous solution, 100°C, 30 min. (3 successive migrations and take the 3rd migration results.) For cooking, dining and cutting article:
Molybdenum (Mo)	0.12	
Nickel (Ni)	0.14 0.1 mg/kg (Italy)	
Silver (Ag)	0.08	
Tin (Sn)	100	

Vanadium (V)	0.01	3% acetic acid at 70°C for 30 mins on the 3rd contact (3 successive migrations and take the 3rd migration results.) For article in contact with water only: Water at 100°C for 30 mins on the 3rd contact (3 successive migrations and take the 3rd migration results.)
Zinc (Zn)	5	
Specification migration for metals as contaminants and impurities (mg/kg food)		
Arsenic (As)	0.002	Chapter 3, Annex I and II in Council of Europe Guide on metals and alloys used in food contact materials and articles.
Barium (Ba)	1.2	
Beryllium (Be)	0.01	
Cadmium (Cd)	0.005	
Lead (Pb)	0.010	
Lithium (Li)	0.048	
Mercury (Hg)	0.003	
Thallium (Tl)	0.0001	
Global migration	8 mg/dm² or 50 mg/kg (Italy)	Italian decree of Ministry of health of 21/03/1973 and its amendment, Italian decree of Ministry 21/12/2010, No 258
Requirement	Limit/Requirement	
Stainless steele grade	Stainless steel shall be compliant and tested according to Italian decree of Ministry of health of 21/03/1973 and its amendments, Annex II, Section VI and Article 36	

Kazakhstan

Stainless Steel

Restricted substance	Limit	Standard
Copper	1.0 mg/dm ³	GOST 17151-81
Zinc	1.0 mg/dm ³	
Nickel	0.1 mg/dm ³	
Chrome	0.1 mg/dm ³	

US

Stainless steel

Requirement	Limit/Requirement
Stainless steel grade	Stainless steel used in food equipment shall be of a type in the AISI 200 series, AISI 300 series, or AISI 400 series. However, for series 200 & 400 alloys, corrosion resistance test for 48 hours at 1% salt spray MAYBE needed which upon requested by FDA or lab.

Uruguay		
Metals & Stainless Steel		
Restricted substance	Limit	Standard
Raw material	Must meet the specifications and stainless-steel grade in chapter 3 of CMC Res. no. 46/06	GMC Res. no. 46/06
Sum of impurities of Lead, Arsenic, Cadmium, Mercury, Antimony and Copper.	1%	
Individual limit of impurities of Lead, Arsenic, Cadmium, Mercury, Antimony and Copper	0.01%	
Contaminated metals; Arsenic, Lead, Cadmium, Mercury, Tin	Arsenic 0.01 mg/kg Cadmium 0.01 mg/kg Lead 0.01 mg/kg Mercury 0.5 mg/kg Tin 150 mg/kg	GMC Res. no. 12/11
Manufacturing aids	Must comply with the positive lists and restrictions in chapter 3 of GMC Res. no. 46/06.	GMC Res. no. 46/06
Approved stainless steel composition check	Only approved stainless steel grades can be used for food contact applications	GMC Res. no. 46/06

China			
Stainless steel			
Migration tests shall comply with the provisions of GB31604.1 and GB 5009.156 unless otherwise stated in Annex A in the material standard.			
Requirement	Limit/Requirement	Material standard	Test standards/inspection method
Raw material requirement	1. Food contact metal, metallic plating, solder shall be of good quality and not contaminated with poisonous or hazardous substances, and thus confirmed of their safety and integrity. 2. The composition of metal substrate and plating should meet the claim. 3. Stainless steel food containers and the main part of tools, machinery and apparatus for food production and management should be austenitic stainless steels, austenitic ferritic stainless steels, ferritic stainless steel; stainless steel tableware and the main parts of stainless steel drilling and grinding tools for food production machinery and apparatus, such as the main part of the mechanical equipment or martensite stainless steel can also be made of martensitic stainless steel materials.	GB 4806.9 Food Safety National Standards - Metal materials and articles	Part 2 of GB31604.38- or Part 2 of GB31604.49
Sensory Requirement	Extraction solvent should have no smell.		
	As ≤ 0.04 mg/kg		

Extractable Heavy Metals Contents for stainless steel materials and articles	Cd ≤ 0.02 mg/kg		GB31604.24 or Part 2 of GB31604.49
	Pb ≤ 0.05 mg/kg		Part 2 of GB31604.34 or Part 2 of GB31604.49
	Cr ≤ 2.0 mg/kg (NA for Martensitic SS)		31604.25, or Part 2 of GB31604.49
	Ni ≤ 0.5 mg/kg		31604.33, or Part 2 of GB31604.49
Stainless steel kitchenware	Meet the specification in QB/T 2174		QB/T 2174

Paper, Board & Paper Napkins

EU		
Paper, Board & Paper Napkins		
Restricted substance	Limit	Test method
Recycled paper	Permitted only with approval from Group Compliance	
Coated paper and board	Must also comply with Plastic requirements	
Antimicrobial substances	The finished paper or paper board must not have any preserving effect on the foodstuffs with which they come into contact.	EN 1104
Sensory properties	No change in the composition of the food or its organoleptic properties.	EN 1230-1 and -2 in combination with EN 10955
Lead, specific migration	Not detected (< 0.01mg/kg)	EN 13130-1
Lead	≤ 3 mg/kg	FR: DGCCRF, EN 12498 Maximum permitted content in paper or board expressed as mg/kg
Cadmium	≤ 0.5 mg/kg	
Chromium VI	≤ 0.25 mg/kg	
Mercury	≤ 0.3 mg/kg	FR: DGCCRF, EN 12497 Maximum permitted content in paper or board expressed as mg/kg
Pentachlorophenol (PCP)	≤ 0.1 mg/kg	ISO 15320 Maximum permitted content in paper or board expressed as mg/kg
Dyes and colourants	No bleeding A value of 5 on the evaluation scale must be reached	Color fastness (determination of color fastness of dyed paper and board intended to come into contact with foodstuffs). DIN EN 646
4,4'-bis (dimethylamino)-benzophenone (Michler's ketone)	Not detected (< 0.01mg/kg)	EDQM Guideline for paper and board EN 15519
Bisphenol A	0.05 mg/kg	CEN/TS 13130-13
	Not detected (< 0.01mg/kg) (for infants and young children article)	
1,3-dichloro-2-propanol (1,3-DCP), extractable	N.D. (< 2.0 µg/L)	EN 645
3-chloro-1,2-propanediol (3-MCPD), extractable	< 12.0 µg/L	
Sum of benzo(a) pyrene, benzo(a) anthracene, benzo(b)fluoranthene and chrysene	Not detected (sum, detection limit = 0.001 mg/kg for food contact paper and board not yet in contact with food)	EN 16619 CEN/TS 16621
Sum of benzophenone, 2-methyl benzophenone, 3-methyl benzophenone and 4-methyl benzophenone	Sum: 0.6mg/kg Sum (2-methylbenzophenone+3-	EDQM Guideline for paper and board EN 15519

	methyl benzophenone + 4-methyl benzophenone): 0.05mg/kg	
Diethylhexylphthalate (DEHP)	1.5 mg/kg	EN 16453
Sum of dibutyl phthalate (DBP) and diisobutyl phthalate (DIBP)	0.3 mg/kg	EN 16453
CMR category 1A/1B primary aromatic amines (PAAs)	Not detected (0.002 mg/kg)	EN 17163
Sum of all PAAs	Not detected (0.01 mg/kg)	EN 17163
Fluorescent Whitening Agents (FWAs)	No bleeding. A value of 5 on the evaluation scale must be reached	EN 648
Additional NIAS requirements for recycled paper and board		
Diisopropylanthracene (DIPN)	As low as technically achievable	CEPI Guideline EN 14719
Dibutylphthalate (DBP)	0.3 mg/kg	EN 16453, SML
Di-isobutyl Phthalate (DIBP)	0.3 mg/kg	
Polycyclic Aromatic Hydrocarbons (PAHs*)	0.01 mg/kg	CEPI Guideline, SML
Polychlorinated Biphenyls (PCB)	2 mg/kg	ISO 15318 Maximum permitted content in paper or board expressed as mg/kg
Bisphenol A, Bisphenol F, Bisphenol S	Not allowed to be used (not detectable with detection limit of 0.1 mg/kg)	Extraction with organic solvent followed by LCMS/MS analysis

US

Paper & Board

Requirement	Limit/Requirement
Paper and paperboard Components in contact with aqueous, fatty and dry foods	21 CFR 176
Use of Color Additives in Paper and Paperboard Intended for Use with Food	CPG Sec. 500.425

CHINA

Paper & paperboard

Migration test shall be in accordance with the requirements of GB31604.1 and GB5009.156 unless otherwise stated in material standard.

Requirement	Limit/Requirement	Material Standard	Test standards/ inspection method
Raw material requirement	1.The used food contact paper and paperboard material(s) and article(s) should not harmful to human health in normal and intended conditions of use. The fiber materials should be mainly base on plant fiber, any synthetic materials used should be listed in GB 4806.6 or relevant notice, and meet the specification.	GB 4806.8 Food Safety National Standards - Paper and paperboard	Synthetic fibres GB 4806.6

	2. The wax coating used on paper and paperboard materials(s) and article(s) should meet Food Safety National Standards.		
Sensory Requirement	No peculiar odour Extraction solvent should be clear and no smell.		
Lead (Pb)	≤ 3.0 mg/kg		Part I of GB 31604.34 or Part I of GB 31604.49
Arsenic (As)	≤ 1.0 mg/kg		Part I of GB 31604.38 or Part I of GB 31604.49
Formaldehyde	≤ 1.0 mg/dm ²		Prepare water extraction test solution according to Appendix A, then conduct determination in accordance with GB 31604.48 (migration test is not conducted)
Fluorescing substance – 254 nm & 365nm	Negative		GB 31604.47
Overall migration test (Not applicable for paper or paperboard coated with wax)	≤ 10 mg/dm ² ≤ 60 mg/kg for infants and young children		GB 31604.8
Heavy metal (as Pb) content in 4 % acetic acid (60°C, 2hrs) (Only applicable for food contact paper and paperboard which can be in contact with water or foods with a free-water on the surface)	≤ 1 mg/kg		GB 31604.9
1,3-dichloro-2-propanol (1,3-DCP) , extractable	N.D. (< 2.0 µg/L)		GB 4806.8 Annex A 5.2/A 5.3 Annex C
3-chloro-1,2-propanediol (3-MCPD) , extractable	< 12.0 µg/L		GB 14934
Coliform group (/50 cm ²)	N.D.		GB 14934
Salmonella (/50 cm ²)	N.D.		GB 14934
Molds count (CFU/g)	50		GB 4789.15
Additive	Meet the specification in GB 9685 and relative notice.		GB 9685

South Korea		
Paper & Board		
Restricted substance/Requirement	Limit/Requirement	Test method
Lead, Cadmium, Mercury and Hexavalent Chromium	100 mg/kg or less (In total)	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (IV), method 2-1, 2-2, 2-3, 2-4.
Polychlorinated Biphenyls (PCBs), Material Specification	≤ 5.0 mg/kg	Article 7 (IV) of food contact code, method 2-52.
Arsenic (As), Migration Specification	≤ 0.1 mg/l (as As ₂ O ₃)	Article 7 (IV) of food contact code, methods 2-9, 2-1, 2-27 and 2-53 Taiwan: methods of test for food utensils, containers and packages- test of plastic uncoated paper products
Lead (Pb), Migration Specification	≤ 1.0 mg/l	
Formaldehyde, Migration Specification	≤ 4.0 mg/l	
Fluorescence whitening agent, Migration Specification	Negative result	

Taiwan		
Paper & Board		
Restricted substance/Requirement	Limit/Requirement	Test method
Synthetic coloring agents (Colors materials, except transparent materials)	Synthetic coloring agents other than those listed in the Enforcement Regulation shall not be used. Excepting the cases where the colors are used in such a way that they will have no possibility of mixing with foods - Refer to Elution of coloring agent	Taiwan Sanitation Standard for Food Utensils, Containers and Packages. Methods of test for food utensils, containers and packages- test of plastic uncoated paper products
Fluorescence substances	Negative (Direct observation & dyeing method)	
Formaldehyde, Migration Specification	4 ppm	
Heavy metal (as Pb)	not more than 1 ppm	
Arsenic, Migration Specification	not more than 0.1 ppm (as As ₂ O ₃)	
Evaporation residue	not more than 30 ppm (Result over 30 ppm, chloroform-soluble extractives shall not more than 40ppm)	

Wood and natural fiber

EU		
Wood and natural fiber		
Restricted substance/Requirement	Limit/Requirement	Test method
Wood uncoated (including cork)		
Wood preservatives	Not allowed to be used without approval by H&M Group ¹³	Self declaration
Sensory analysis	No change in sensory properties (smell or taste) of food ≤ 2.5 (Scale 0-4) .	Sensory analysis test: DIN 10955/ ISO 13302
Pentachlorophenol (PCP)	0.1 mg/kg	64 LFGB B82.02-8
Trichlorophenol (PCP)	Not detectable (with a reporting limit of 0.1 mg/kg)	
Tetrachlorophenol (PCP)	Not detectable (with a reporting limit of 0.1 mg/kg)	
Mold	Mold 50 CFU/g	GB 4789.15
Additional requirements for natural fibre (uncoated) (e.g. straw, rattan, banana leaves)		
Antimicrobial requirement	No inhibition zone should be observed	EN 1104
Additional requirements for Jute		
Odor	No odor detected (sacks made of woven jute/polyolefin fabric)	EN 767
Specifications	Standard specification for jute bags used in the packaging of food	IJO Standard 98/01
Residual mineral oil	Not to exceed 0.15 percent by weight of finished fibers	21 CFR 177.2800
Additional requirements for organic coating on wood and natural fiber		
Overall migration limit	10 mg/dm ² 60 mg/kg for infants and young children	EN1186
Specific migration of formaldehyde	15 mg/kg	Migration with food simulant followed EN 13130-23
Specific migration of primary aromatic amines (PAA)	Sum of PAA: Not detectable (a detection limit of 0.01 mg/kg) - Individual PAA listed in REACH entry 43 to Appendix 8 of Annex XVII (detection limit of 0.002 mg/kg)	Migration with food simulant followed by LC-MS/MS EN13130-1
Bisphenol A, Bisphenol S and Bisphenol F	Not allowed to be used (detection limit 0.1 mg/kg)	Extraction with organic solvent followed by LCMS/MS analysis
Color fastness	No color transition	EN 646

¹³ Contact your local H&M PO office

Monomers or other starting substances, additives, polymer production aids etc.	Comply with composition and specific migration positive list in Annex I, Regulation (EU) No 10/2011	Migration with food simulant followed by instrumental analysis
Metals and lanthanides	Comply with composition and specific migration in Annex II Regulation (EU) No 10/2011	Migration with food simulant followed by ICP-MS
Aluminium	1 mg/kg	Migration with food simulant followed by ICP-MS EN 13130-1
Antimony	0,04 mg/kg	
Arsenic	Not detectable (detection limit 0,01 mg/kg)	
Barium	1 mg/kg	
Cadmium	Not detectable (Limit of detection 0,002 mg/kg)	
Chromium	Not detectable (detection limit 0,01 mg/kg)	
Cobalt	0.05 mg/kg	
Copper	5 mg/kg	
Iron	48 mg/kg	
Lithium	0.6 mg/kg	
Manganese	0.6 mg/kg	
Mercury	Not detectable (detection limit 0,01 mg/kg)	
Nickel	0,02 mg/kg	
Lead	Not detectable (detection limit 0,01 mg/kg)	
Zinc	5 mg/kg	

South Korea		
Wood & natural fiber		
Restricted substance/Requirement	Limit/Requirement	Test methods
Wood		
Arsenic (As), Migration Specification	≤ 0.1 mg/l (as As ₂ O ₃)	Migration of arsenic, lead, sulfur dioxide, o-phenylphenol, Thiabendazole, Biphenyl and Imazalil from wood. Article 7 (VI) of food contact code, methods 2-9, 2-1, 2-55 and 2-56
Lead (Pb), Migration Specification	≤ 1.0 mg/l	
Sulfur dioxide, Migration Specification	≤ 12.8 mg/l	
o-Phenylphenol, Migration Specification	≤ 7.3 mg/l	
Thiabendazole, Migration Specification	≤ 1.8 mg/l	
Biphenyl, Migration Specification	≤ 0.9 mg/l	
Imazalil, Migration Specification	≤ 0.6 mg/l	

Starch		
Lead, Cadmium, Mercury and Hexavalent Chromium	100 mg/kg or less (In total)	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (IV), method 2-1, 2-2, 2-3, 2-4. Migration of arsenic, lead, potassium permanganate consumption, formaldehyde and fluorescence whitening agent from starch. Article 7 (VI) of food contact code, methods 2-9, 2-1, 2-7, 2-27 and 2-53.
Arsenic (As), Migration Specification	≤ 0.1 mg/l (as As ₂ O ₃)	
Lead (Pb), Migration Specification	≤ 1.0 mg/l	
Potassium permanganate consumption, Migration Specification	≤ 10.0 mg/l	
Formaldehyde, Migration Specification	≤ 4.0 mg/l	
Fluorescence whitening agent, Migration Specification	Negative result	

Taiwan	
Wood & natural fiber	
Restricted substance/Requirement	Limit/Requirement
Wood	
Polychlorinated Biphenyls (PCBs), Material Specification	≤ 5.0 mg/kg
Arsenic (As), Migration Specification	≤ 0.1 mg/l (as As ₂ O ₃)
Lead (Pb), Migration Specification	≤ 1.0 mg/l
Formaldehyde, Migration Specification	Not detected
Evaporation residue	≤ 30 ppm

Textile products (natural and synthetic fibers)

EU Food contact products in textile material must also follow H&M Group Chemical restrictions (RSL) Textile products, Accessories, Footwear, Bags and Belts.		
Restricted substance/Requirement	Limit/Requirement	Test method
Azo Dyes & Pigments*	10 mg/kg per listed amine	EN ISO 14362-1
Formaldehyde	16 mg/kg	ISO 14184-1
Pentachlorophenol content	0.5 mg/kg	§ 64 LFGB B 82.02-8:2001 modified
Overall migration limit¹⁴	10 mg/dm ² 60 mg/kg for infants and young children	EN1186
Color fastness to foodstuff	No visible color migration to foodstuff. A value of 5 on the evaluation scale must be reached.	EN 646
Odour	Grade 2 – not unpleasant	Smell test according to SNV 195 651
Mold	Spores and mycelia of mold not detected.	<ol style="list-style-type: none"> 1. Smell test SNV 195 651 2. Light microscope analysis for suspicious spots 3. Staining with lactophenol blue followed by microscope analysis

¹⁴ For synthetic textile only

Polymer coatings and varnishes

EU	
Polymer coatings and varnishes	
Coated material	Restriction
Organic coatings or varnishes on metal substrate	Must comply with Additional requirements for organic coatings or varnishes on metal substrate in section Metals and Alloys.
Varnishes and polymer coatings on wood and natural fiber	Must comply with Additional requirements for organic coating on wood and natural fiber in section Wood and natural fiber.
Plastic coating on paper and board	Must comply with chemical restrictions for Plastic.

Uruguay		
Polymer coating on metals		
The final product must comply with requirements for tests and simulants according to GMC Resolution no. 32/10 and composition requirements and the specific migration limit(s) in accordance with applicable technical regulations below.		
Restricted substance	Limit	Standard
Positive lists of monomers, other initiating substances, and polymers	Must meet the specific migration limits and composition limits in GMC Resolution no. 02/12	EN 13130 or applicable standards in GMC Res. no. 02/12
Positive lists of additives	Must meet the restrictions of use, specific migration limits and composition limits in GMC Resolution no. 32/07	Applicable standards in GMC Res. no. 32/07
Global migration	50 mg/ kg \geq 250 ml 8 mg/ dm ² < 250 ml	EN 1186 or applicable in GMC Res. no. 56/92
Additional requirements for colourants		
Pigments and colorants raw materials	Must comply with the requirements specified in, section 2 in Annex GMC Resolution no. 15/10	GMC Res. no. 15/10
Additional requirements for coloured and printed polymer coating		
Antimony (Sb)	0,04 mg / kg	GMC Res. no. 15/10
Arsenic (As)	0,01 mg / kg	
Barium (Ba)	1 mg / kg	
Boron (B)	0,5 mg / kg	
Cadmium (Cd)	0,005 mg / kg	

Zinc (Zn)	25 mg / kg	
Copper (Cu)	5 mg / kg	
Chromium (Cr)	0,05 mg / kg	
Tin (Sn)	1,2 mg / kg	
Fluorine (F)	0,5 mg / kg	
Mercury (Hg)	0,005 mg / kg	
Silver (Ag)	0,05 mg / kg	
Lead (Pb)	0,01 mg / kg	

Japan

Polymer coatings

Coated material	Restriction
Polymer coatings	Must comply with chemical restrictions for all Plastic and polymer coatings

China Paints and Coatings applicable for all materials except paper paints and coatings Migration test shall be implemented according to requirements of GB 31604.1 and GB5009.156			
Requirement	Requirement/Limit	Material standard	Test standard /inspection method
Raw material requirement	The used resin should be listed in appendix A in GB 4806.10 or relevant notice, and meet the specification.	GB 4806.10 Food Safety National Standards - Painting and coating	
Sensory Requirement	The extraction solvent should be colorless, no smell and no sediment.		Migration according to GB31604.1 and GB 5009.156
Overall migration test -	≤10 mg/dm ² or 60 mg/kg		Migration according to GB31604.1 and GB 5009.156, and then followed by GB 31604.8
Potassium permanganate titration	≤10 mg/kg		Migration according to GB31604.1 and GB 5009.156, and then followed by GB 31604.2
SM for certain substances [according to the material information provided (e.g. regulatory affairs products information data sheet, etc)]^	The coating resin used must be listed in GB 4806.10.		Migration according to GB31604.1 and GB 5009.156, and then followed by instrumental analysis
Lead	≤1 mg/kg		Migration according to GB31604.1 and GB 5009.156, and then followed by GB 31604.9
Additives SM for certain substances [according to the material information provided (e.g. regulatory affairs products information data sheet, etc)]	Meet the specification in GB 9685 and relative notice.		Migration according to GB31604.1 and GB 5009.156, and then followed by instrumental
Specific release of heavy metals (for coating on metal substrate)	For stainless steel: Arsenic ≤ 0.04 mg/kg Cadmium ≤ 0.02 mg/kg Lead ≤ 0.05 mg/kg Chromium ≤ 2.0 mg/kg Nickel ≤ 0.5 mg/kg (Cr is not required for martensitic stainless steel) For other metals: Arsenic ≤ 0.04 mg/kg Cadmium ≤ 0.02 mg/kg Lead ≤ 0.2 mg/kg	4806.9	GB 4806.9 GB 31604.24 GB 31604.25 GB 31604.33 GB 31604.34 GB 31604.38

Adjuvant, Processing aids and Coatings

US	
Adjuvant, Processing aids and Coatings	
Restricted substance/Requirement	Limit/Requirement
Indirect food additives Adjuvants, production aids and sanitizers	21 CFR 178
Indirect food additives Adhesives and components of coatings	21 CFR 175

Plastic

EU		
All Plastic		
The final product must comply with Regulation (EU) No 10/2011 and amendments.		
Restricted substance	Limit	Test method
Sensory properties	No change in sensory properties (smell and/or taste) of food. Shall be controlled with Sensory analysis. Not worse than Grade 2.5.	Sensory analysis DIN 10955/ ISO 13302
Overall migration limit	10 mg/dm ² 60 mg/kg for infants and young children	EN1186
Monomers and other starting substances, additives, polymer production aids etc.	Comply with composition and specific migration positive list in Annex I, Regulation (EU) No 10/2011	Migration with food simulant followed by instrumental analysis
Metal and lanthanides	Comply with composition and specific migration in Annex II, Regulation (EU) No 10/2011	Migration with food simulant followed by ICP-MS
Aluminium	1 mg/kg	Migration with food simulant followed by ICP-MS EN 13130-1
Antimony	0,04 mg/kg	
Arsenic	Not detectable (detection limit 0,01 mg/kg)	
Barium	1 mg/kg	
Cadmium	Not detectable (Limit of detection 0,002 mg/kg)	
Chromium	Not detectable (detection limit 0,01 mg/kg)	
Cobalt	0.05 mg/kg	
Copper	5 mg/kg	

Iron	48 mg/kg	
Lithium	0.6 mg/kg	
Manganese	0.6 mg/kg	
Mercury	Not detectable (detection limit 0,01 mg/kg)	
Nickel	0,02 mg/kg	
Lead	Not detectable (detection limit 0,01 mg/kg)	
Zinc	5 mg/kg	
Specific migration of primary aromatic amines (PAA)	Sum of PAA: Not detectable (a detection limit of 0.01 mg/kg) - Individual PAA listed in REACH entry 43 to Appendix 8 of Annex XVII (detection limit of 0.002 mg/kg)	Migration with food simulant followed by LC-MS/MS EN13130-1
Additional requirement for colored plastics		
Colour fastness	No transfer of colorants to food simulants is permitted	Resolution AP (89)1 Appendix III
Acetal Resins/Polyoxymethylene (POM)		
Boron (B)	0.008%	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Zinc (Zn)	1%	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Formaldehyde, Specific Migration	3 ppm (Aqueous simulants only)	EN 13130-23
Acryl Resins		
Volatile Organic matter (VOM)	0.5%	Gravimetric Method (90°C, 24 hours)
Peroxide	Not detected	Ph. Eur. Method 2.5.5
Melamine resins		
Formaldehyde	15 mg/kg	EN 13130-23
Melamine	2.5 mg/kg	EN 13130-1
Apart from complying with EU Regulation 10/2011, including its amendments Melamine resins must also comply with EU Regulation 284/2011.		
Polyamide (PA) e.g. Nylon		
Caprolactam	15 mg/kg	EN 13130-1
PAA	< 0.01 mg/kg	EN 13130
Hexamethylenediamine (PA6,6)	≤2.4 mg/kg	EN 13130
Apart from complying with EU Regulation 10/2011, including its amendments Polyamide resins must also comply with EU Regulation 284/2011.		
Polyethylene (PE)		
Chromium (Cr)	10 ppm	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Vanadium (V)	20 ppm	
Zirconium (Zr)	100 ppm	
Hafnium (Hf)	100 ppm	
1-Octene	≤15 mg/kg	EN 13130
1-Hexene	≤3 mg/kg	EN 13130
Polyethylene Terephthalate (PET)		
Lead (Pb), total	40 ppm as PbO	

Zinc (Zn), total	80 ppm	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Antimony	350 ppm	
Ethylene glycol	≤30 mg/kg (expressed as ethylene glycol)	EN 13130
Diethylene glycol		
Terephthalic acid	≤7.5 mg/kg (expressed as terephthalic acid)	
Isophthalic acid		
Acetaldehyde	≤6 mg/kg	
Formaldehyde	≤15 mg/kg	
Polypropylene (PP)		
Chromium (Cr)	10 ppm	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Vanadium (V)	20 ppm	
Zirconium (Zr)	100 ppm	
Hafnium (Hf)	100 ppm	
1-Octene	≤15 mg/kg	EN 13130
1-Hexene	≤3 mg/kg	EN 13130
Polyurethane (PU)		
Isocyanates*	Not detected	ISO 10283 (modified)
Peroxide	Not detected	Ph. Eur. Method 2.5.5
Dimethylformamide (DMF)	Usage ban	
Thermoplastic Elastomer (TPE)		
Formaldehyde, Specific Migration	3 ppm (Aqueous simulants only)	EN 13130-23
Zinc (Zn)	1%	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Lead (Pb)	0.001%	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Tritan Copolyester TX1001		
Specific migration of 2,2,4,4-tetramethylcyclobutane-1,3-diol (TMCD, CAS no. 3010-96-6)	5 mg/kg *Only for repeated use articles for long term storage at room temperature or below and hotfill	Migration with food simulant followed by GC-MS

Kazakhstan		
Plastic		
Restricted substance	Limit	Standard
Polyethylene (PE) and Polypropylene (PP)		GOST 50962
Formaldehyde	0.1 mg/l	
Polymethylmetacrylate (PMMA)		
Methyl metacrylate	0.25 mg/l	
Polyamid 66		
Hexamethylene diamine	0.5 mg/l	
Polyamide 6		
E-caprolaktam	0.5 mg/l	

Polyethyleneterephthalate		
Ethanal	0.2 mg/l	

US	
Plastic	
Restricted substance	Requirement
All Plastic	
All Plastics must comply with US regulation 21 CFR Part 177 on plastic materials and articles intended to come into contact with food.	
Melamine	
Formaldehyde	21 CFR 177.1460
Nylon (Polyamides)	
Nylon resins which may be safely used to produce articles intended to come into contact with food	21 CFR 177.1500
Polyethylene (PE)	
Olefin polymers	21 CFR 177.1520
Polyethylene Terephthalate (PET)	
Polyethylene phthalate polymers	21 CFR 177.1630
Polyoxymethylene (POM)	
Polyoxymethylene copolymer	21 CFR 177.2470
Polypropylene (PP)	
Olefin polymers	21 CFR 177.1520
Polyurethane (PU)	
Polyurethane resins	21 CFR 177.1680
Tritan	
Tritan Copolyester TX1001	FCN No. 1041

China			
Plastic resins and Plastic materials and articles			
Plastic resins			
Requirement		Material standard	Test method
Raw material resin	The used food contact plastic resins must meet the specification in GB 4806.6 1. Should not be harmful to human health in normal and intended conditions of use.	GB 4806.6 Food Safety National Standards - Plastic resin	Migration tests acc to GB31604.1 and GB 5009.156. SML (T) and

	2. The used resin should be listed in appendix A or relevant notice, and meet the specification.		SML(T) group no. specified in Append B of GB 9685 apply
Sensory Requirement	No peculiar odour		GB 4806.6
	Extraction solvent should be clear and no smell.		
Additive	The additives must meet the specification in GB 9685 and relative notice.		
Plastic materials and articles (including non-vulcanized thermoplastic elastomer material and articles)			
Sensory Requirement	No peculiar odour, Extraction solvent should be clear and no smell.	GB 4806.7 Food Safety	GB 4806.7
Overall migration test	≤10 mg/dm ² or (≤ 60 mg/kg for article intended to be brought into contact with food for infants or young children)	National Standards - Plastic materials and articles	Migration according to GB31604.1 and GB 5009.156, and then followed by GB 31604.8
Usage of Potassium permanganate titration (KMnO₄)	≤10 mg/kg		Migration according to GB31604.1 and GB 5009.156, and then followed by GB 31604.2
SM Lead	≤1 mg/kg		Migration according to GB31604.1 and GB 5009.156, and then followed by GB 31604.9
Decolorization (for colored material)	Negative		GB 31604.7
Additive	Meet the specification in GB 9685 and relative notice.		GB 9685
SM for certain substances [according to the material information provided (e.g. regulatory affairs products information data sheet, etc	Specific migration limit and other restrictions should meet the specification in GB 4806.6 appendix A and relative notice.		Migration according to GB31604.1 and GB 5009.156, and then followed by instrumental analysis
Specific requirements for certain plastic type (not exhaustive)			
Polypropylene (PP)			
SM for certain substances [according to the material information provided (e.g.	The plastic resin used must be listed in GB 4806.6.	GB 4806.6	Migration according to GB31604.1 and GB

regulatory affairs products information data sheet, etc)]			5009.156, and then followed by instrumental analysis
Polyethylene (PE)			
SM for certain substances [according to the material information provided (e.g. regulatory affairs products information data sheet, etc)]	The plastic resin used must be listed in GB 4806.6.	GB 4806.6	Migration according to GB31604.1 and GB 5009.156, and then followed by instrumental analysis
Tritan Copolyester TX1001			
Specific migration of 2,2,4,4-tetramethylcyclobutane-1,3-diol (TMCD, CAS no. 3010-96-6)	*Only for use at temperatures not higher than 100°C	Polymer is listed as No. 35 in GB 4806.6 (CAS No. 261716-94-3)	Migration according to GB31604.1 and GB 5009.156, and then followed by GC-MS

South Korea		
Plastic		
Restricted substance	Requirement	Test method
All Plastic		
Total lead, cadmium, mercury and chromium (VI) content, Material Specification	≤ 100 mg/kg	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (VI), methods 2-1, 2-2, 2-3 and 2-4.
Acrylic Resin (Polymethyl methacrylate (PMMA))		
Lead (Pb), Migration Specification	≤ 1.0 mg/l	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (VI), methods 2-1, 2-7, 2-8 and 2-29.
Potassium permanganate consumption, Migration Specification	≤ 10 mg/l	
Evaporation residue, Migration Specification	≤ 30 mg/l	
Methyl methacrylate, migration Specification (Limited to polymer that contains ≥ 50% of methyl methacrylate)	≤ 6.0 mg/l	
Melamine		
Lead (Pb), Migration Specification	≤ 1.0 mg/l	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food
Evaporation residue, Migration Specification	≤ 30 mg/l	

Phenol, Migration Specification	≤ 5 mg/l	Products, Article 7 (VI), methods 2-1, 2-8, 2-26, 2-27 and 2-28.
Formaldehyde, Migration Specification	≤ 4.0 mg/l	
Melamine, Migration Specification	≤ 2.5 mg/l	
Polyamide		
Lead (Pb), Migration Specification	≤ 1.0 mg/l	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (VI), methods 2-1, 2-8, 2-7, 2-30, 2-31 and 2-32.
Evaporation residue, Migration Specification	≤ 30 mg/l	
Potassium permanganate consumption, Migration Specification	≤ 10 mg/l	
Caprolactam, Migration Specification	≤ 15 mg/l	
Primary aromatic amine, Migration Specification (Sum as aniline, 4,4'-methylenedianiline and 2,4-toluenediamine)	≤ 0.01 mg/l	
Ethylenediamine, Migration Specification	≤ 12 mg/l	
Hexamethylenediamine, Migration Specification	≤ 2.4 mg/l	
Lauro lactam, Migration Specification	≤ 5.0 mg/l	
Polyethylene (PE) and Polypropylene (PP)		
Lead (Pb), Migration Specification	≤ 1.0 mg/l	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Migration of lead, potassium permanganate consumption, evaporation residue, 1-hexene and 1-octene. Article 7 (IV), methods 2-1, 2-7, 2-8 and 2-20.
Potassium permanganate consumption, Migration Specification	≤ 10 mg/l	
Evaporation residue, Migration Specification	≤ 150 mg/l (for use at temperatures ≤ 100°C and n-heptane as leaching solution) ≤ 30 mg/l (other simulants as leaching solution)	
1-hexene, Migration Specification (only for PE)	≤ 3 mg/l	
1-octene, Migration Specification (only for PE)	≤ 15 mg/l	
Polyurethane (PU)		
Lead (Pb), Migration Specification	≤ 1.0 mg/l	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (IV), methods 2-1, 2-7, 2-8, 2-38 and 2-31.
Potassium permanganate consumption, Migration Specification	≤ 10 mg/l	
Evaporation residue, Migration Specification	≤ 30 mg/l	
Isocyanate, Migration Specification	≤ 0.1 mg/l	
4,4'-methylenedianiline, Migration Specification	≤ 0.01 mg/l	
Polyethylene Terephthalate (PET)		
Lead (Pb), Migration Specification	≤ 1.0 mg/l	Ministry of Food and Drug Safety - Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (IV), methods 2-1, 2-7, 2-8, 2-10, 2-24 and 2-25.
Potassium permanganate consumption, Migration Specification	≤ 10 mg/l	
Evaporation residue, Migration Specification	≤ 30 mg/l	
Antimony (Sb), Migration Specification	≤ 0.04 mg/l	

Germanium (Ge), Migration Specification	≤ 0.1 mg/l	
Terephthalic acid, Migration Specification	≤ 7.5 mg/l	
Isophthalic acid, Migration Specification	≤ 5.0 mg/l	
Acetaldehyde, Migration Specification	≤ 6.0 mg/l	
Polyacetal/Polyoxymethylene (POM)		
Lead (Pb), Migration Specification	≤ 1.0 mg/l	Korea Standards and Specifications for Utensils, Containers and Packaging for Food Products, Article 7 (IV), methods 2-1, 2-7, 2-8 and 2-27.
Potassium permanganate consumption, Migration Specification	≤ 10 mg/l	
Evaporation residue, Migration Specification	≤ 30 mg/l	
Formaldehyde, Migration Specification	≤ 4.0 mg/l	

Japan		
Plastic		
All Plastic and polymer coatings		
The final product must comply with the composition requirements, the food type that may be in contact, the permitted temperature conditions, and applicable limitations in accordance with article 18 (3) in Food Sanitation Act No 233 of 1947, amendments and applicable tables.		
Base polymers in plastics	Must meet the specification in positive list in Appended Table 1 (1)	
Base polymers in coatings	Must meet the specification in positive list in Appended Table 1 (2)	
Minor monomers (≤ 2%) used for polymerization of base polymers	Must meet the specification in positive list in Appended Table 1 (3)	
Additives	Must meet the specification in positive list in Appended Table 2	
Restricted substance	Requirement	Test method
All Plastic		
Elution of coloring agent	Not recognized	Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Lead, Cadmium	not more than 100 µg/g each	
Heavy metal (as Pb)	not more than 1 µg/ml	
KMnO ₄ consumption	not more than 10 µg/ml	
Acrylic Resin (Polymethyl methacrylate (PMMA))		
Evaporation residue, Migration Specification	≤30 µg/ml	Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Methyl methacrylate, migration Specification	≤ 15 µg/ml	
Synthetic resin made from formaldehyde		
Phenol, Migration Specification	Negative	Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Formaldehyde, Migration Specification	Negative	
Evaporation residue	≤ 30 ppm	

Phenolic resin, Melamine resin and Urea resin		
Evaporation residue, Migration Specification	≤ 30 µg/ml	Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Phenol, Migration Specification	≤ 5 µg/ml	
Formaldehyde, Migration Specification	Negative	
Polyethylene (PE) and Polypropylene (PP)		
Evaporation residue, Migration Specification	≤ 150 µg/ml (for use at temperatures ≤ 100°C and n-heptane as leaching solution) ≤ 30 µg/ml (other simulants as leaching solution)	Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Polyethylene Terephthalate (PET)		
Evaporation residue, Migration Specification	≤ 30 µg/ml	Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336
Antimony (Sb), Migration Specification	≤ 0.05 µg/ml	
Germanium (Ge), Migration Specification	≤ 0.1 µg/ml	

Taiwan		
Plastic		
Restricted substance	Requirement	Test method
All Plastic		
Elution of coloring agent	Not recognized	Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Lead, Cadmium	≤ 100 µg/g each	
Phthalate Content	di-(2-ethylhexyl) phthalate (DEHP), di-n-butyl phthalate(DBP), Butylbenzyl phthalate(BBP), Di decyl phthalate(DIDP), Diisononyl phthalate(DINP), Dimethyl phthalate(DMP), Di-n-octyl phthalate(DNOP), Diethyl phthalate(DEP) each content ≤ 0.1%	
Heavy metal (as Pb)	not more than 1 µg/ml	
KMnO4 consumption	not more than 10 µg/ml	
Migration of Phthalate	DEHP not more than 1.5 ppm DBP not more than 0.3 ppm BBP not more than 30 ppm DIDP not more than 9 ppm DINP not more than 9 ppm DEHA not more than 18 ppm	
Acrylic Resin (Polymethyl methacrylate (PMMA))		

Evaporation residue, Migration Specification	≤ 30 mg/l	Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Methyl methacrylate, migration Specification	≤ 15 ppm	
Melamine		
Evaporation residue, Migration Specification	≤ 30 µg/ml	Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Phenol, Migration Specification	Negative	
Formaldehyde, Migration Specification	Negative	
Melamine, Migration Specification	≤ 2.5 ppm	
Polyamide		
Evaporation residue, Migration Specification	≤ 30 mg/l	Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Caprolactam, Migration Specification	≤ 15 ppm	
Polyethylene (PE) and Polypropylene (PP)		
Evaporation residue, Migration Specification	≤ 150 mg/l (for use at temperatures ≤ 100°C and n-heptane as leaching solution) ≤ 30 mg/l (other simulants as leaching solution)	Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Polyethylene Terephthalate (PET)		
Evaporation residue, Migration Specification	≤ 30 ppm	Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Antimony (Sb), Migration Specification	≤ 0.05 ppm	
Germanium (Ge), Migration Specification	≤ 0.1 ppm	

Natural rubber, synthetic rubber, silicone and elastomer

EU		
Rubber		
Restricted substance/Requirement	Limit	Test method
Antimicrobial effect substances	Usage ban	
Overall migration a) Products in contact with food for more than 24 hours, e.g. storage containers b) Products in contact with food less than 24 hours, e.g. lid seals, stoppers and caps	a) Test conditions: 10 days at 40°C 50 mg/dm ² – in distilled water and in 10% ethyl alcohol 150 mg/dm ² (organic components < 50 mg/dm ²) – in 3% wt. acetic acid b) Test conditions: 24 hours at 40°C 20 mg/dm ² – in distilled water and in 10% ethyl alcohol 100 mg/dm ² (organic components < 20 mg/dm ²) – in 3% wt. acetic acid	EN 1186, BfR recommendation XXI
Overall migration limit	10 mg/dm ² 60 mg/kg for infants and young children	EN1186
PAH*, Content	< 0.2 ppm, each 10 listed PAH < 1 ppm, naphthalene < 1 ppm sum of Anthracene, fluoranthene, phenanthrene, pyrene < 1 ppm, sum of 15 PAH	AfPS GS 2019:01 PAK
PAH*, Specific Migration	10 µg/kg	EN 13130+GC/MS
Lead (Pb), total	For rubber: 0.003% For rubber with mouth contact: 0.001%	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Zinc (Zn), total	1 %	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and determination with ICP/MS
Organotin Compounds*	0.05 mg/kg	DIN 38407-13
Formaldehyde, Specific Migration	3 ppm (aqueous solution only)	EN 13130-23
N-nitrosamines, Specific Migration	0.01 ppm 1 µg/dm ² , sum release in elastomers	EN 12868
N-nitrosable substances For rubber with mouth contact	0.1 ppm	
Lead (Pb), migration	N.D. (detection limit of 0.01 mg/kg)	BfR recommendation XXI

Aluminum (Al), migration	1 mg/kg	
Zinc (Zn), migration	25 mg/kg	
Primary Aromatic Amines, Specific Migration	- N.D (a detection limit of 0.01 mg/kg) - N.D. PAAs listed in REACH entry 43 to Appendix 8 of Annex XVII : Not detected (detection limit of 0.002 mg/kg)	
Secondary aliphatic and cycloaliphatic amines, specific migration	5 mg/dm ²	
Peroxide residues	Absence	DGCCRf - 2004-64, European Pharmacopoeia, 2005
Volatile Organic Matter (VOM)	< 0.5%	DGCCRf - 2004-64, French decree 25/11/92
Aromatic Amines	≤1 mg/kg	DGCCRf - 2004-64, EN 13130

China			
Natural rubber, synthetic rubber and silicone rubber materials and articles			
Requirement		Material standard	Test method
Raw material requirement	The used natural rubber resin, synthetic rubber resin, silicone rubber resin should be listed in appendix A or relevant notice, and meet the specification, vulcanized thermoplastic elastomer resin should be listed in GB 4806.6 appendix A or relevant notice.	GB 4806.11 Food Safety National Standards – rubber materials and articles	
Sensory Requirement	No peculiar odor. Extraction solvent should be clear and no smell.		
Overall migration test - distilled water, 4% acetic acid, 10% ethanol, 20% ethanol, 50% ethanol, 95% ethanol	≤10 mg/dm ² or 60 mg/kg		GB 31604.8
Potassium permanganate titration in Distilled water (60°C, 0.5h)	≤10 mg/kg		GB 31604.2
Heavy metal (as Pb) content in 4 % acetic acid (60°C, 0.5h)	≤1 mg/kg		GB 31604.9
Other requirement	Specific migration limit and other restrictions for natural rubber, synthetic rubber, silicone rubber should meet the specification in GB 4806.11 appendix A and relative notice. Specific migration limit and other restrictions for sulfide thermoplastic elastomer should meet the		

	specification in GB 4806.6 appendix A and relative notice.		
Additive	Meet the specification in GB 9685 and relative notice.		

Uruguay

Elastomer including rubber

The final product must comply with the requirements in GMC Resolution no. 54/97 and the composition requirements and the specific migration limit(s) in accordance with applicable resolutions and technical regulations below.

Restricted substance	Limit	Standard
Positive lists of elastomeric polymers, crosslinking agents, additives etc.	Must meet the specific migration limits and composition limits in GMC Resolution no. 02/12	Applicable standards in GMC Res. no. 28/99
Global migration	50 mg/ kg \geq 250 ml 8 mg/ dm ² < 250 ml	Applicable standard in GMC Res. no. 36/92
Colorants and pigments in elastomer	Must comply with the requirements specified in, section 2 in Annex GMC Resolution no. 15/10	GMC Res. no. 15/10

US

Rubber

All polymers must comply with US Regulation 21 CFR Part 177 – Indirect Food Additives: Polymers

Restricted substance/Requirement	Limit
Rubber articles intended for repeated use	21 CFR 177.2600
Closures with sealing gaskets for food containers	21 CFR 177.1210

South Korea, Japan & Taiwan		
Rubber and silicone		
Restricted substance/Requirement	Limit	Test method
Elution of coloring agent	Not recognized Only for Japan & Taiwan	Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336 Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Total lead (Pb) content, Material Specification	≤ 100 mg/kg (for non-pacifier) ≤ 10 mg/kg (for pacifier)	KR: Article 7 (IV) of food contact code, methods 2-1, 2-2, 2-49 and 2-39 Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336 Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Total cadmium (Cd) content, Material Specification	≤ 100 mg/kg (for non-pacifier) ≤ 10 mg/kg (for pacifier)	
2-Mercatoimidazoline, Material Specification (limited to rubber containing chlorine)	Not detected	
1,3-butadiene, Material Specification (limited to the rubber material that contain 50% or more of 1,3-butadiene)	≤ 1.0 mg/kg	
Lead (Pb), Migration Specification	≤ 1.0 mg/kg	KR: Article 7 (IV) of food contact code, methods 2-1, 2-8, 2-26, 2-27, 2-50 and 2-51. Japan Specifications and Standards for Food, Food Additives, etc. (1959 MHW Notice No. 370) with Amendments up to 2010 MHLW Notice No. 336 Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Evaporation residue, Migration Specification	≤ 60 mg/kg (for non-pacifier) ≤ 40 mg/kg (for pacifier)	
Phenol, Migration Specification	≤ 5.0 mg/l	
Formaldehyde, Migration Specification	≤ 4.0 mg/l Not detected (for Japan & Taiwan)	
Zinc (Zn), Migration Specification	≤ 15 mg/kg (for non-pacifier) ≤ 1.0 mg/kg (for pacifier)	
N-nitrosamines, Migration Specification (Sum of N-nitrosodimethylamine, N-nitrosodiethylamine, N-nitrosodi-n-propyl amine, N-nitrosodi-n butylamine, N-nitrosopiperidine, N-nitrosopyrrolidine, N-nitroso morpholine)	≤ 0.01 mg/kg (for pacifier)	
N-nitrosatable substances, Migration Specification	≤ 0.01 mg/kg (for pacifier)	

(Sum of N-nitrosodimethylamine, N-nitrosodiethylamine, N-nitrosodi-n-propyl amine, N-nitrosodi-n butylamine, N-nitrosopiperidine, N-nitrosopyrrolidine, N-nitroso morpholine)		
Phthalate Content	Only For Taiwan di-(2-ethylhexyl) phthalate (DEHP), di-n-butyl phthalate(DBP), Butylbenzyl phthalate(BBP), Diisodecyl phthalate(DIDP), Diisononyl phthalate(DINP), Dimethyl phthalate(DMP), Di-n-octyl phthalate(DNOP), Diethyl phthalate(DEP) each content ≤ 0.1%	Taiwan Sanitation Standard for Food Utensils, Containers and Packages
Migration of Phthalate	Only For Taiwan DEHP ≤ 1.5 ppm DBP ≤ 0.3 ppm BBP ≤ 30 ppm DIDP ≤ 9 ppm DINP ≤ 9 ppm DEHA ≤ 18 ppm	

EU Silicone		
Restricted substance	Requirements	
Monomers, additives and other starting substances	Must be listed in annex I in Spanish Royal Decree 847/2011 or in Annex I in EU Regulation (EU) No.10/2011 or EU Resolution AP (2004) 5.	
Polymerization aids	Must comply with article 5 in Spanish Royal Decree 847/2011 and not be present in final product.	
Identity and purity of coloring matter	Must fulfill the criteria of identity and purity established in article 6 and Annex II of Royal Decree 847/2011 Article.	
Specific migration limits (SML)	Final product must fulfill SML in Annex I in Royal Decree 847/2011, Annexes III and V in Regulation (EU) No.10/2011 or EU Resolution Resolution AP(2004) 5.	
Restricted substance/Requirement	Limit	Test method
Overall migration limit	10 mg/dm ² 60 mg/kg for infants and young children	EN1186
Migration of colorants	> 95% transmission	DM 21/03/1973
SML of Organotin (as Tin)	0.1 mg/kg	Arrêté du 25 Novembre 1992
PAH*, Content	< 0.2 ppm, each 10 listed PAH < 1 ppm, naphthalene	AfPS GS 2019:01 PAK

	< 1 ppm sum of Anthracene, fluoranthene, phenanthrene, pyrene < 1 ppm, sum of 15 PAH	
PAH*, Specification Migration	5 µg/kg	EN 13130+GC/MS
Extractable Matter	0.5%	§ 30 and 31 of Food and Feed Code (LFGB) / BfR recommendation XV
Peroxide	Not detected	Ph. Eur. Method 2.5.5
Volatile Organic Matter (VOM)	0.5%	French Decree 2007-766, French Arrete 25 Nov. 1992 , 4h/200°C
Formaldehyde specific migration	3 ppm (Aqueous simulants only)	EN 13130-23

US

Silicone

All polymers must comply with US Regulation 21 CFR Part 177 – Indirect Food Additives: Polymers

Restricted substance/Requirement	Limit
Rubber articles intended for repeated use	21 CFR 177.2600
Closures with sealing gaskets for food containers	21 CFR 177.1210

Waxes and paraffines

Uruguay

Waxes and Paraffines

Restricted substance	Limit	Standard
Components for preparation of paraffin-based coatings	Must comply with restrictions and specification in the positive list chapter 3 in GMC Res no. 67/00.	GMC Res. no. 67/00

Requirements - Child Care Articles

Cutlery and Feeding Utensils

EU

Additional requirements for Metals / Stainless steel / Silicone		
Restricted substance	Limit	Test method
Antimony (Sb)	15 mg/kg	According to EN14372
Arsenic (As)	10 mg/kg	
Barium (Ba)	100 mg/kg	
Cadmium (Cd)	20 mg/kg	
Lead (Pb)	25 mg/kg	
Chromium (Cr)	10 mg/kg	
Mercury (Hg)	10 mg/kg	
Selenium (Se)	100 mg/kg	

Drinking Equipment

EU

Plastic & Thermoplastic Elastomer (TPE), Rubber, Silicone

General Requirements for Plastic & Thermoplastic Elastomer (TPE) / Rubber/ Silicone		
Restricted substance	Limit	Test method
Aluminium (Al)	6000 mg/kg	According to EN 14350
Antimony (Sb)	120 mg/kg	
Arsenic (As)	10 mg/kg	
Barium (Ba)	4000 mg/kg	
Boron (B)	3200 mg/kg	
Cadmium (Cd)	3,6 mg/kg	
Chromium (Cr III)	100 mg/kg	
Chromium (Cr VI)	0,002 mg/kg	
	If the result is below the Limit of Quantification of EN 71-3, the sample is to be considered passed.	
Cobalt (Co)	28 mg/kg	
Copper (Cu)	1 660 mg/kg	
Lead (Pb)	5,0 mg/kg	
Manganese (Mn)	600 mg/kg	
Mercury (Hg)	20 mg/kg	
Nickel (Ni)	56 mg/kg	
Selenium (Se)	100 mg/kg	

Strontium (Sr)	12 000 mg/kg	TPE, Rubber, Silicone, EN 12868
Tin (Sn)	40 000 mg/kg	
Organic Tin	2,5 mg/kg	
Zinc (Zn)	10 000 mg/kg	
N-Nitrosamines release	0.01 mg/kg	
N-Nitrosatables release	0.1 mg/kg	

Additional requirements for Thermoplastic Elastomer (TPE)		
Restricted substance	Limit	Test method
Formaldehyde, specific migration	0,5 mg/l	EN 14350
Primary Aromatic Amines, Specific Migration	Sum of PAA: Not detected (a detection limit of 0.01 mg/kg) Individual PAA listed in REACH entry 43 to Appendix 8 of Annex XVII : Not detected (detection limit of 0.002 mg/kg)	EN 14350 Simulant: 3% acetic acid. Test conditions: 40°C for 24 hours,

Additional requirements for Rubber		
Restricted substance	Limit	Test method
2-mercaptobenzothiazole (MBT)	8 mg/kg	EN 14350
2,6-bis(1,1-dimethylethyl)-4-methylphenol (BHT)	0,42 mg/l	
2,2'-methylenebis(4-ethyl-6-tert-butylphenol) (Cyanox 425)	0,08 mg/l	
2,2'-methylenebis(6-(1,1-dimethylethyl)-4-methylphenol) (Antioxidant 2246)	This limit is the SML(t) for the sum of Cyanox 425 and Antioxidant 2246	
Butylated reaction product of p-cresol and dicyclopentadiene (Wingstay L)	0,34 mg/l	
2,4-bis(octylthiomethyl)-6-methylphenol (Irganox1520)	0,34 mg/l	
2,4-bis(dodecylthiomethyl)-6-methylphenol (Irganox 1726)	This limit is the SML(t) for the sum of Irganox 1520 and Irganox 1726	
Formaldehyde, specific migration	0,5 mg/l	Simulant: 3% acetic acid. Test conditions: 40°C for 24 hours, According to EN 14350, BfR XXI/1-2
Primary Aromatic Amines, Specific Migration	Sum of PAA: Not detected (a detection limit of 0.01 mg/kg) - Individual PAA listed in REACH entry 43 to Appendix 8 of Annex XVII : Not detected (detection limit of 0.002 mg/kg)	

Additional requirements for Silicone		
Restricted substance	Limit	Test method
Volatile Compounds Content	< 0.5 %	EN 14350

Glass

Restricted substance	Limit	Test method
Lead (Pb)	10 µg/l of the simulant	EN ISO 17294-2
Cadmium (Cd)	3 µg/l of the simulant	Simulant: 4% acetic acid. Test conditions: 22°C for 24 hours

US

Children's products		
Ban of lead-containing paint and similar surface coatings		16 CFR Part 1303
Total lead (Pb)	≤ 90 mg/kg	
Children's products containing lead		CPSIA – 15 U.S.C. § 1278a
Total lead (Pb)	≤ 90 mg/kg	
Prohibition of children's toys and child care articles containing specified phthalates		16 CFR Part 1307.3
di-(2-ethylhexyl) phthalate (DEHP)	≤ 0.1%, each	
dibutyl phthalate (DBP)		
benzyl butyl phthalate (BBP)		
diisononyl phthalate (DINP)		
diisobutyl phthalate (DIBP)		
di-n-pentyl phthalate (DPENP)		
di-n-hexyl phthalate (DHEXP)		
dicyclohexyl phthalate (DCHP)		

Canada

Infant Feeding Bottle Nipples		SOR/2016-180
Limit of volatile N-nitrosamines	≤ 0.01 mg/kg	by dichloromethane extraction
Surface Coating Materials		SOR 2016-193, SOR 2011-17, SOR 2022-122
Total lead (Pb)	≤ 90 mg/kg	
Total mercury (Hg)	≤ 10 mg/kg	
any compound of Antimony (Sb) Arsenic (As) Cadmium (Cd) Selenium (Se) Barium (Ba)	≤ 1000 mg/kg	ASTM F963/ EN 71-3/ ISO 8124-3
Consumer Products Containing Lead		SOR/2018-83
Total lead (Pb)	≤ 90 mg/kg, each accessible part	

Appendix: Restricted substances with CAS no

Not exhaustive list

Restricted substance name	CAS No
Aluminium (Al)	7429-90-5
4-aminobiphenyl	92-67-1
Aniline hydrochloride	142-04-1
Antimony (Sb)	7440-36-0
Arsenic (As)	7440-38-2
Barium (Ba)	7440-39-3
Beryllium (Be)	7440-41-7
Biphenyl	92-52-4
Benzidine	92-87-5
Bisphenol A (BPA)	80-05-7
Bisphenol F (BPF)	620-92-8
Bisphenol S (BPS)	80-09-1
β-naphthylamine	91-59-8
Boron (B)	7440-42-8
1,3-Butadiene	106-99-0
Cadmium (Cd)	7440-43-9
Caprolactam	105-60-2
Cerium	7440-45-1
3-Chloro-1,2-propanediol (3-MPCD)	96-24-2
Chromium (Cr)	7440-47-3
Chromium III (Cr ³⁺)	16065-83-1
Chromium VI (Cr ⁶⁺)	18540-29-9
Cobalt (Co)	7440-48-4
Copper (Cu)	7440-50-8
1,3-Dichloro-2-propanol (1,3- DCP)	96-23-1
Diisobutyl phthalate (DIBP)	84-69-5
Diisopropylnaphthalene (DIPN)	38640-62-9
Dimethylformamide (DMF)	68-12-2
Epichlorohydrin	106-89-8
Ethylenediamine	107-15-3
Fluorine	7782-41-4
Formaldehyde	50-00-0
Gallium	7440-55-3
Germanium (Ge)	7440-56-4
Glyoxal	107-22-2
Hafnium (Hf)	7440-58-6
Hexamethylenediamine	124-09-4
Hexamethylenetetramine	100-97-0
1-Hexene	592-41-6
Hydroquinone	123-31-9
Imazalil	35554-44-0
Iron (Fe)	7439-89-6
Isophthalic acid	121-91-5
Lauro lactam	947-04-6

Lead (Pb)	7439-92-1
Lithium (Li)	7439-93-2
Manganese (Mn)	7439-96-5
4,4-methylenedianiline	101-77-9
Methyl methacrylate	80-62-6
Melamine	108-78-1
Mercury (Hg)	7439-97-6
Molybdenum (Mo)	7439-98-7
N-ethylphenyl amine	103-69-5
Nickel (Ni)	7440-02-0
1-Octene	111-66-0
o-phenylphenol	90-43-7
Pentachlorophenol (PCP)	87-86-5
Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)	172155-07-6
7H-Dodecafluoroheptanoic Acid (HPFHpA)	1546-95-8
2H,2H-perfluorodecanoic Acid (H2PFDA)	-
2H,2H,3H,3H-Perfluoroundecanoic Acid (H4PFUnA)	34598-33-9
1H,1H,2H,2H-Perfluorooctylacrylate (6:2 FTA)	17527-29-6
1H,1H,2H,2H-Perfluorodecylacrylate (8:2 FTA)	27905-45-9
1H,1H,2H,2H-Perfluorododecylacrylate (10:2 FTA)	17741-60-5
1H,1H,2H,2H-Perfluoro-1-hexanol (4:2 FTOH)	2043-47-2
1H,1H,2H,2H-Perfluoro-1-oktanol (6:2 FTOH)	647-42-7
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7
1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)	865-86-1
2-(N-methylperfluoro-FASE 1 octanesulfonamido)-ethanol (MeFOSE)	24448-09-7
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (EtFOSE)	1691-99-2
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2
1H,1H,2H,2H-Perfluorooctanesulphonic acid (H4PFOS 6-2)	27619-97-2
All other Perfluorinated or Polyfluorinated compounds (fully or partially fluorinated compounds)	Various
Peroxide	8007-30-5 / 7722-84-1
Polychlorinated Biphenyls (PCB)	1336-36-3
Potassium permanganate	7722-64-7
Rubidium (Rb)	7440-17-7
Selenium (Se)	7782-49-2
Silver (Ag)	7440-22-4
Strontium (Sr)	7440-24-6
Styrene	100-42-5
Sulfur dioxide	7446-09-5
Terephthalic acid	100-21-0
Tin (Sn)	7440-31-5
Titanium (Ti)	7440-32-6
Thallium (Tl)	7440-28-0
Thiabendazole	148-79-8
Tris(2-hydroxyethylamine)	102-71-6

Vanadium (V)	7440-62-2
Zinc (Zn)	7440-66-6
Zirconium (Zr)	7440-67-7

Azo Dyes and Pigments	CAS No
4-aminodiphenyl	92-67-1
Benzidine	92-87-5
4-Chloro-o-toluidine	95-69-2
2-Naphthylamine	91-59-8
o-Aminoazotoluene	97-56-3
2-Amino-4-nitrotoluene	99-55-8
2,4-Diaminoanisole	615-05-4
4,4'-Diaminodiphenylmethane	101-77-9
3,3'-Dichlorobenzidine	91-94-1
3,3'-Dimethoxybenzidine (o-Dianisidine)	119-90-4
3,3'-Dimethylbenzidine (o-Tolidine)	119-93-7
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0
p-Chloroaniline	106-47-8
p-Cresidine	120-71-8
4,4'-Methylene-bis-(2-chloroaniline)	101-14-4
4,4'-Oxydianiline	101-80-4
4,4'-Thiodianiline	139-65-1
2,4-Toluenediamine	95-80-7
o-Toluidine	95-53-4
2,4,5-Trimethylaniline	137-17-7
o-Anisidine	90-04-0
p-Aminoazobenzene	60-09-3
2,4-Xylidine	95-68-1
2,6-Xylidine	87-62-7

Isocyanates	CAS No
Diphenylmethane diisocyanate (MDI)	101-68-8
Hexamethylene diisocyanate (HMDI)	822-06-0
Isophorone diisocyanate (IPDI)	4098-71-9
Tetramethylxylene diisocyanate (TMXDI)	2778-42-9
2,4-Toluene diisocyanate (2,4 TDI)	584-84-9
2,6-Toluene diisocyanate (2,6 TDI)	91-08-7

N-Nitroamines	CAS No
N-Nitrosodimethylamine	62-75-9
N-Nitrosodiethylamine	55-18-5
N-Nitrosodipropylamine	621-64-7
N-Nitrosodibutylamine	924-16-3
N-Nitrosopiperidine	100-75-4
N-Nitrosopyrrolidine	930-55-2
N-Nitrosomorpholine	59-89-2
N-Nitroso-N-methylaniline	614-00-6
N-Nitroso-N-ethylaniline	612-64-6

Organotin Compounds	CAS No
Dibutyltin (DBT)	1002-53-5
Diocetyl tin (DOT)	-
Tributyltin (TBT)	56573-85-4
Tricyclohexyltin (TCyHT)	6056-50-4
Triocetyl tin (TOT)	250252-89-2
Triphenyltin (TPhT)	668-34-8
Tripropyltin (TPT)	-
Other tri-substituted organotins	Various

Phenolic Substances	CAS No
Phenolic Substances	Various

PFCs/ PFAS	CAS No
Perfluorobutane Sulfonate (PFBS)	29420-49-3
Perfluorohexane Sulfonate (PFHxS)	3871-99-6
Perfluoroheptane Sulfonate (PFHpS)	375-92-8
Perfluorooctane Sulfonate (PFOS)	56773-42-3
Perfluorodecane Sulfonate (PFDS)	126105-34-8
Perfluorooctane Sulfonamide (PFOSA) 1H,1H,2H,2H H4PFOS 6:2	754-91-6
Perfluorobutane Acid (PFBA)	375-22-4
Perfluoropentane Acid (PFPA)	2706-90-3
Perfluorohexane Acid (PFHxA)	307-24-4
Perfluoroheptane Acid (PFHpA)	375-85-9
Perfluorooctanoic Acid (PFOA)	335-67-1
Perfluorononane Acid (PFNA)	375-95-1
Perfluorodecane Acid (PFDA)	335-76-2
Perfluoroundecanoic Acid (PFUnA)	4234-23-5
Perfluorododecanoic Acid (PFDoA)	307-55-1
Perfluorotridecanoic Acid (PFTrA)	72629-94-8
Perfluorotetradecanoic Acid (PFTeA)	376-06-7
Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)	172155-07-6
7H-Dodecanefluoroheptane Acid (HPFHpA)	1546-95-8
2H,2H-perfluorodecane Acid (H2PFDA)	-
2H,2H,3H,3H-Perfluoroundecanoic Acid (H4PFUnA)	34598-33-9
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2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (EtFOSE)	1691-99-2
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2
1H,1H,2H,2H-Perfluorooctanesulphonic acid (H4PFOS 6-2)	27619-97-2
All other Perfluorinated or Polyfluorinated compounds (fully or partially fluorinated compounds)	Various

Polyaromatic Hydrocarbons (PAHs)	CAS No
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Anthracene	120-12-7
Benzo[a]anthracene	56-55-3
Benzo[a]pyrene	50-32-8
Benzo[b]fluoranthene	205-99-2
Benzo[e]pyrene	192-97-2
Benzo[g,h,i]perylene	191-24-2
Benzo[j]fluoranthene	205-82-3
Benzo[k]fluoranthene	207-08-9
Chrysene	218-01-9
Dibenz[a,h]anthracene	53-70-3
Fluoranthene	206-44-0
Fluorene	86-73-7
Indeno(1,2,3-c,d)pyrene	193-39-5
Naphthalene	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0

Phthalates	CAS No
Di-iso-nonylphthalate (DINP)	28553-12-0
Di-n-octylphthalate (DNOP)	117-84-0
Di(2-ethylhexyl)-phthalate (DEHP)	117-81-7
Diisodecylphthalate (DIDP)	26761-40-0
Butylbenzylphthalate (BBP)	85-68-7
Dibutylphthalate (DBP)	84-74-2
Diisobutylphthalate (DIBP)	84-69-5
Di-n-hexylphthalate (DnHP)	84-75-3
Diethylphthalate (DEP)	84-66-2
Dimethylphthalate (DMP)	131-11-3
di-n-pentyl phthalate (DPENP)	131-18-0
dicyclohexyl phthalate (DCHP)	84-61-7
Bis(2-methoxyethyl)	117-82-8
Dinonyl phthalate (DNP)	84-76-4
Di-n-propyl phthalate (DPRP)	131-16-8
Di-cyclohexyl phthalate (DCHP)	84-61-7
Di-iso-octyl phthalate (DIOP)	27554-26-3

Polyaromatic amines (PAA)	CAS No
biphenyl-4-ylamine 4-aminobiphenyl xenylamine	92-67-1
benzidine	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphthylamine	91-59-8
o-aminoazotoluene 4-amino-2',3-dimethylazobenzene 4-o-tolylazo-o-toluidine	97-56-3
5-nitro-o-toluidine	99-55-8
4-chloroaniline	106-47-8
4-methoxy-m-phenylenediamine	615-05-4
4,4'-methylenedianiline 4,4'-diaminodiphenylmethane	101-77-9
3,3'-dichlorobenzidine 3,3'-dichlorobiphenyl-4,4'-ylenediamine	91-94-1
3,3'-dimethoxybenzidine o-dianisidine	119-90-4
3,3'-dimethylbenzidine 4,4'-bi-o-toluidine	119-93-7
4,4'-methylenedi-o-toluidine	838-88-0
6-methoxy-m-toluidine p-cresidine	120-71-8
4,4'-methylene-bis-(2-chloro-aniline) 2,2'-dichloro-4,4'-methylene-dianiline	101-14-4
4,4'-oxydianiline	101-80-4
4,4'-thiodianiline	139-65-1
o-toluidine 2-aminotoluene	95-53-4
4-methyl-m-phenylenediamine	95-80-7
2,4,5-trimethylaniline	137-17-7
o-anisidine 2-methoxyaniline	90-04-0
4-amino azobenzene	60-09-3
2,6-Dimethylaniline	87-62-7
Aniline	62-53-3
2,4-Dimethylaniline	95-68-1
m-Phenylenediamine	108-45-2
p-Phenylenediamine	106-50-3
2,6-Toluenediamine	823-40-5
1,5-Diaminenaphthalene	2243-62-1

Version history information is available in the separate file *History and sources Food contact products*.