



Footwear Restricted Substances List

Issue 20 | September 2020

This SATRA Footwear Restricted Substances List aims to identify substances that are relevant to consumer products and are restricted by legislation, or are regularly present in Restricted Substances Lists. The information is presented in a summarised format that indicates the materials in which these substances might be found.

For further information on chemical testing, training and consultancy please contact chemistry@satra.com



Substance Summary

Azo colourants	Applicable to dyed leathers and textiles in direct contact with the skin.
Pentachlorophenol, Tetrachlorophenol, Trichlorophenol, Orthophenylphenol	Applicable to leathers and natural materials where a fungicide has been applied.
Nickel	Applicable to metal items in direct and prolonged contact with the skin.
Chromium VI	Applicable to all leathers, coming into contact with the skin.
Phthalates	Often listed in specifications for children's products. Applicable to materials where plasticisers have been used such as PVC and some flexible coated fabrics. Also applicable to footwear containing electronics (RoHS 2).
Total cadmium	Applicable to polymeric materials including coated fabrics and coated leathers.
Total lead	Applicable to all materials in children's products (those aged 12 and under) imported or manufactured in the USA.
Polycyclic aromatic hydrocarbons (PAHs)	Applicable to rubber and plastics.
Dimethyl fumarate (DMFu)	Applicable to all materials (but primarily relevant to materials where biocides are required).
Organostannic compounds (organotins)	Applicable to preparations, plastics, textiles and coated leathers. Specific footwear requirements for DOT.
Formaldehyde	Applicable to leathers and textiles.
Chloroalkanes (SCCP)	Applicable to leathers and coated textiles.
Extractable metals	Applicable to children's products, especially those intended for children under 6 years.
Extractable chromium	Applicable to leather children's products, especially those intended for children under 6 years.
Allergenic disperse dyes	Applicable to synthetic textiles, restricted in national legislation.
1-methyl-2-pyrrolidone (NMP)	Used historically in leather process chemicals.
PFOS (perfluorooctanyl sulphonates), PFOA (perfluorooctanoic acid)	Applicable to textiles and leathers only when a stain or water resistant treatment has been applied.
Nonyl phenol and Nonyl phenol ethoxylates	Current legislation relates to wetting agents used in manufacturing, applicable to leathers and textiles.
Heavy metals (Pb, Cd, Hg & Cr VI)	Applicable where electrical components are present (RoHS 2), and packaging materials.
Brominated flame retardants	Only applicable in consumer goods where flame retardants may have been used, and where electrical components are present (RoHS 2).
pH value	Applicable to Personal Protective Equipment (PPE) only.
Dimethylformamide (DMFa)	Applicable to polyurethanes, synthetic textiles and synthetic leathers where DMFa could be used as a solvent during production.
Dimethylacetamide (DMAC)	Applicable to adhesives and used in the production of plasticisers and synthetic fibres .
Benzene	Could be present as a contaminant in solvent based cleaning agents.
Chlorotoluenes	Could be present as a contaminant in solvent based cleaning agents or as possible breakdown products from PVC.
Quinoline	Could be used as an industrial solvent in the manufacture of dyes and chemical intermediates.
Pesticides	Could be used on leather or natural textiles.

Substance	Legislation	Requirement	Test Methods	Applicable Materials									
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²		
Azo colourants	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³	< 30mg/kg (see note in Appendix 1)	EN ISO 14362-1:2017 Textiles (natural and synthetic materials) EN ISO 14362-3:2012 Textiles for 4 - aminoazobenzene EN ISO 17234-1:2015 Leather EN ISO 17234-2:2011 Leather for 4 - aminoazobenzene GB/T 19942-2005 - leather GB/T 17592-2011 - textiles		●	●							
	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 43 • Korean REACH • Turkish Official Gazette No. 28431 (applies to all materials)	< 30mg/kg of each amine for dyed products in direct contact with the skin (amines listed in Appendix 1)		●	●	●							
	• China GB 20400-2006 (leather) • China GB 18401-2011 (textile)	< 20mg/kg (Chinese requirement for textiles)											
Pentachlorophenol (PCP) and its salts and esters	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 22	< 1000mg/kg in substances or mixtures	EN ISO 17070:2015 PD CEN/TR 14823:2003 (wood) EN 717-3:1996 (wood)									●	
	• Persistent Organic Pollutants Regulation (EU) 2019/1021	< 1mg/kg (none detected) (see Appendix 8a)											
	• Spanish specification UNE 59950:2007 ⁴	< 5mg/kg (leathers) < 0.05mg/kg (textiles)		●	●			●				●	
	• German Gefahrstoff Verordnung (Hazardous Substances Ordinance) Annex IV, No 12	< 5mg/kg											
Tetrachlorophenol (TeCP)	• No legislation, but commonly quoted in brand and retailer specifications	< 5mg/kg guidance limit											
Trichlorophenol (TCP)				●	●			●		●			
Orthophenylphenol (OPP)		< 500mg/kg guidance limit											
Nickel	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 27	< 0.5µg/cm ² /week for products in prolonged contact with the skin < 0.2µg/cm ² /week for ear/body piercing posts	EN 12472:2005+A1:2009 Wear & Corrosion EN 1811:2011+A1:2015 Nickel Migration									●	
Chromium VI	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 47 • Germany - 18th Regulation on the amendment of the German ordinance on commodities of 3rd August 2010	< 3mg/kg (Annex XVII Entry 47 applies to leather coming into contact with the skin)	EN ISO 17075-1:2017 EN ISO 17075-2:2017 (reference method)	●									
	• Spanish specification UNE 59950:2007 ⁴	< 10mg/kg											
	• Toy Safety Directive (2009/48/EC) (for children's toys - requirement for all materials)	Category I materials < 0.02mg/kg Category II materials < 0.005mg/kg Category III materials < 0.053mg/kg	EN 71-3:2019										

- Legislative requirement
- Specification or recommended requirement

Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Phthalates	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entries 51 and 52 (see also REACH Candidate List)	< 0.1% sum of DEHP, DBP, BBP and DIBP < 0.1% sum of DIDP, DINP, DNOP (products intended to be mouthed) See Appendix 2a	EN ISO TS 16181:2011 EN ISO 14389:2014 CPSC-CH-C1001-09.4 (2018)								
	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³	< 0.1% sum of the 5 phthalates listed in Appendix 2b or in other entries of REACH Annex XVII									
	• 'Children's Safe Products Act' - Washington State Law	< 0.1% sum of DEHP, DBP, BBP, DIDP, DINP and DNOP				●					
	• Korean KC mark (Safety Quality Mark Act)	< 0.1% sum of DEHP, DBP, BBP, DIDP, DINP, DNOP (under 36 months) < 0.1% sum of DEHP, DBP, BBP (3 - 14 years)									
	• Turkish Official Gazette No. 28431	< 0.1% sum of DIDP, DINP, DNOP, DEHP, DBP, BBP (applies to all materials)									
	• RoHS 2 Directive - 2011/65/EU (for products containing electrical components) ⁵	< 0.1% of DBP, DEHP, BBP and DIBP									
	• CPSIA section 108 (as updated by 82 FR 49938)	< 0.1% of the eight phthalates listed in full in Appendix 2c									
Total cadmium	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 23	< 100mg/kg	EN 1122:2001 EN 17072-2:2019 EN 16711-1:2015				●	●#			
	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 23	< 100mg/kg for metal parts of jewellery									
	• California SB 929 - Jewellery for children under 6	< 300mg/kg								●	
	• 'Children's safe products' - Washington State Law	< 40mg/kg									

- Legislative requirement
- Specification or recommended requirement
- # Synthetic rubber only

Substance	Legislation	Requirement	Test Methods	Applicable Materials								
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²	
Formaldehyde	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020)³ 	< 75mg/kg	EN ISO 17226-1:2019 Leather EN ISO 14184-1:2011 Textiles - Free & Hydrolysed formaldehyde EN ISO 14184-2:2011 Textiles - Released formaldehyde		●	●						
	<ul style="list-style-type: none"> Japan Law 112 	< 20mg/kg in children's wear under 36 months < 75mg/kg in children's wear over 36 months		●	●	●						
	<ul style="list-style-type: none"> Spanish specification UNE 59950:2007⁴ 	< 150mg/kg - Leather < 75mg/kg - Textiles										
	<ul style="list-style-type: none"> KC Mark (Safety Quality Mark Act) China GB 20400-2006 (leather only) 	< 20mg/kg in children's wear under 36 months < 75mg/kg inner + midwear < 300mg/kg in natural and synthetic leathers		●	●	●			●			
	<ul style="list-style-type: none"> SATRA recommended guideline limits 	< 150mg/kg - Leather < 16mg/kg - Children's textiles < 20mg/kg - Children's leathers										
Extractable metals	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020)³ 	< 1mg/kg of cadmium, chromium VI, arsenic and lead compounds listed in REACH Annex XVII entries 28, 29 and 30	EN 16711-2:2015 (Cd,Pb,As, total Cr) EN ISO 17075-2:2017 (CrVI)		●	●						
	<ul style="list-style-type: none"> Toy Safety Directive (2009/48/EC) for accessible materials for children under six years⁶ China GB21550-2008 Taiwan CNS15503 (children's product) 	See Appendix 5	EN 71-3:2019 GB 21550 clause 5.4 CNS 4747-2	●	●	●	●	●	●	●		
Extractable chromium	<ul style="list-style-type: none"> General Product Safety⁷ 	< 250mg/kg	BS 6684:1989 Appendix A SATRA TM358:1999	●								
Disperse dyes	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020)³ 	< 50mg/kg of Disperse Blue 1, Basic Red 9 and Basic Violet 3	DIN 54231 ISO 16373 Parts 1, 2 and 3:2014 SATRA SOP CAT-040			●						
	<ul style="list-style-type: none"> Germany - §30 of the German Food and Feed Code (LFGB) Retailer Specifications 	< 75mg/kg (dyes listed in Appendix 6)				●						

- Legislative requirement
- Specification or recommended requirement

Substance	Legislation	Requirement	Test Methods	Applicable Materials									
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²		
PFOS (perfluorooctanyl sulphonates)	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021 (as amended by (EU) 2020/784) 	Testing relevant when water/stain resistant treatment has been applied < 1µg/m ² for textiles and coated materials < 0.1% by mass for other materials < 10mg/kg in substances or mixtures (see Appendix 8b)	PD CEN/TS 15968:2010 EN ISO 23702-1:2018										
PFOA (perfluorooctanoic acid) and its salts	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 68 (applies from 4 July 2020) Persistent Organic Pollutants Regulation (EU) 2019/1021 (as amended by (EU) 2020/784) (see also REACH candidate list) 	< 25µg/kg in substances, mixtures or articles (see Appendix 8b)											
Nonyl phenol (NP) and nonyl phenol ethoxylates (NPE)	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 46 (applies to mixtures) and 46a (as amended by Regulation (EU) No 2016/26⁸) 	< 1000mg/kg in mixtures < 100mg/kg guidance limit for articles < 100mg/kg for NPE only ⁸	SATRA SOP CAT-020 EN ISO 18218-1:2015 (leathers) EN ISO 18218-2:2019 (leathers) EN ISO 18254-1:2016 (textiles)										
C₁₀ to C₁₃ Chloroalkanes, SCCP (short chained chlorinated paraffins)	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021 (see also REACH candidate list) 	< 1% in substances or mixtures < 0.15% in articles (see Appendix 8b)	EN ISO 18219:2015 EN 12766-1:2000										
Heavy metals (Pb, Cd, Hg & Cr VI)	<ul style="list-style-type: none"> European Packaging Directive 2004/12/EC 	< 100mg/kg total											
	<ul style="list-style-type: none"> RoHS 2 Directive 2011/65/EU (for products containing electrical components)⁵ 	Hg < 1000mg/kg Cr VI < 1000mg/kg Cd < 100mg/kg Pb < 1000mg/kg	EN 1122:2001 (modified) EN 16711-1:2015										
Brominated flame retardants	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 67 	< 1000mg/kg of Decabromodiphenyl ether (Deca BDE)											
	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 45 	< 1000mg/kg of Octabromodiphenyl ether (Octa BDE)											
	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021 	< 500mg/kg sum of Tetrabromodiphenyl ether (Tetra BDE), Pentabromodiphenyl ether (Penta BDE), Hexabromodiphenyl ether (Hexa BDE), Heptabromodiphenyl ether (Hepta BDE) and Decabromodiphenyl ether (Deca BDE) (see Appendix 8b)	EN ISO 17881-1:2016										
	<ul style="list-style-type: none"> RoHS 2 Directive - 2011/65/EU (for products containing electrical components)⁵ 	< 1000mg/kg of Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) (see Appendix 7)											

- Legislative requirement
- Specification or recommended requirement

Substance	Legislation	Requirement	Test Methods	Applicable Materials								
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²	
1-methyl-2-pyrrolidone (NMP)	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 71 (applies after 9 May 2020) (see also REACH candidate list)	< 0.3% in mixtures	EN ISO 19070:2016	●								●
	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³ (see also REACH candidate list)	< 3000mg/kg			●	●						
Dimethylformamide (DMFa)	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³	< 3000mg/kg	PD CEN ISO/TS 16189:2013		●	●	●					
	• SATRA recommended guideline limit for PU materials (see also REACH candidate list)	< 1000mg/kg					●					
Dimethylacetamide (DMAC)	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³	< 3000mg/kg	PD CEN ISO/TS 16189:2013 (modified)		●	●	●					
Benzene	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 5	< 1mg/kg in mixtures	GC-MS Headspace									●
		< 5mg/kg in toys		●	●	●	●	●	●			
	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³	< 5mg/kg			●	●	●					
pH value	• Requirement for PPE Regulation (EU) 2016/425 ⁹ • Korean REACH	Textiles: 3.5 < pH < 9.5 Leathers: > 3.2 Korea: Textiles: 4 < pH < 9	EN ISO 4045:2018 - Leather EN ISO 3071:2020 - Textiles/other materials	●	●	●	●					
Chlorotoluenes	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³	< 1mg/kg of p-chlorobenzotrichloride, benzotrichloride or benzyl chloride	EN 17137:2018		●	●	●					
Quinoline	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020) ³	< 50mg/kg	Solvent extraction followed by LC-MS/MS or LC-DAD detection		●	●						
Pesticides	• Persistent Organic Pollutants Regulation (EU) 2019/1021	See appendix 8a	ISO 22517:2019	●	●							

- Legislative requirement
- Specification or recommended requirement

Notes

1. Plastics includes coated textiles and coated leathers. The leather or synthetic textile column identifies the applicable substances for the substrates.
2. Mixtures are a combination of substances that can be used during manufacturing (for example adhesives or cleaning solutions) and finishing treatments (for example stain or water repellent treatments or polishes).
3. REACH Annex XVII Entry 72 applies to footwear, clothing and textiles which come into contact with human skin to an extent similar to clothing.
4. Although the Spanish national standard UNE 59950:2007 was withdrawn in 2013, it is SATRA's understanding that Spanish customs may reject products that do not conform to these requirements.
5. The RoHS 2 directive for items which contain electronic components has requirements for Pb, Cd, Hg, Cr VI and PBDE/PBB. RoHS 2 applies to all materials in a product classified as EEE (Electrical or Electronic Equipment).
6. Applicable to products intended for children under 6 years where there is a risk of chewing or sucking.
7. Chrome-tanned leather may not meet the Chromium III requirement for category III materials specified within EN 71-3:2019 although leathers can be manufactured to meet this migration limit. Where appropriate an alternative due diligence guideline for leathers refers to the baby harness standard BS 6684 Appendix A or SATRA TM 358.
8. Commission regulation (EU) 2016/26 will limit the concentration of NPE in textiles which can reasonably be expected to be washed in water during their normal lifecycle, in concentrations equal to or less than 0.01% from 3 February 2021.
9. Within the EU, the requirement for pH is mandatory for PPE (personal protective equipment) only.

This SATRA Consumer Products Restricted Substances List (RSL) considers only substances that are restricted by legislation and substances which are commonly found in textile, leather or polymeric materials which have been linked to health or environmental concerns. It does not include all the SVHC substances, Washington State Children Safe Product Act (CSPA) Chemicals of High Concern to Children (CHCC) or Californian Proposition 65.

The information contained in this document is SATRA's understanding of the legislation at the time of publication. SATRA does not accept any liability for inaccuracies or omissions.

The full list of substances restricted under REACH can be found at <https://echa.europa.eu/substances-restricted-under-reach> (updated on 10 August 2020).

Appendix

Appendix 1 – Restricted aromatic amines in REACH Regulation (EC) No 1907/2006 Entries 43 and 72

Amine	CAS number
4-amino bi phenyl	92-67-1
Benzidine	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphthylamine	91-59-8
o-aminoazotoluene	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	101-77-9
3,3'-dichlorobenzidine	91-94-1
3,3'-dimethoxybenzidine	119-90-4
3,3'-dimethylbenzidine	119-93-7
4,4'-methylenedi-o-toluidine	838-88-0
6-methoxy-m-toluidine	120-71-8
2-chloroaniline	101-14-4
4,4'-oxydianiline	101-80-4
4,4'-thiodianiline	139-65-1
o-toluidine	95-53-4
4-methyl-m-phenylenediamine	95-80-7
2,4,5-trimethylaniline	137-17-7
o-anisidine	90-04-0
4-aminoazobenzene	60-09-3
2,4-xylidine*	95-68-1
2,6-xylidine*	87-62-7

* China GB 20400-2006 and ISO 17234-1:2015 only

Note: The aromatic amines listed above in purple may be formed from the 4 amine salts restricted in REACH Annex XVII Entry 72, hence testing for the presence of azo colourants will confirm if these salts are present

Appendix 2a – Restricted phthalates in REACH Regulation (EC) No 1907/2006 Annex XVII Entries 51 and 52

Phthalate	Abbreviation	CAS number	Restrictions
Bis (2-ethylhexyl) phthalate	DEHP	117-81-7	No greater than 0.1% (individually or in any combination of the phthalates) by mass of plasticised material in articles
Dibutyl phthalate	DBP	84-74-2	
Benzyl butyl phthalate	BBP	85-68-7	
Di-isobutyl phthalate	DIBP	84-69-5	
Di-isononyl phthalate	DINP	28553-12-0 68515-48-0	No greater than 0.1% (individually or in any combination of the phthalates) by mass of plasticised material in toys and childcare articles which can be placed in the mouth
Di-isodecyl phthalate	DIDP	26761-40-0 68515-49-1	
Di-n-octyl phthalate	DNOP	117-84-0	

Appendix 2b – Restricted phthalates in REACH Regulation (EC) No 1907/2006 Annex XVII Entry 72

Phthalate	Abbreviation	CAS number	Restrictions
1,2-benzenedicarboxylic acid; diC 6-8-branched alkylesters, C 7- rich	DIHP	71888-89-6	< 0.1% (individually or in combination with other phthalates in this entry or in other entries of Annex XVII that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B
Bis(2-methoxyethyl) phthalate	-	117-82-8	
Diisopentylphthalate	DIPP	605-50-5	
Di-n-pentyl phthalate	DnPP	131-18-0	
Di-n-hexyl phthalate	DnHP	84-75-3	

Appendix

Appendix 2c – Restricted phthalates in Consumer Products Safety Improvement Act (CPSIA) 2008, section 108 as amended by 82 FR 49938

Phthalate	Abbreviation	CAS Number	Restriction
Bis (2-ethylhexy) phthalate	DEHP	117-81-7	Prohibited in children's toys and child care articles at concentrations above 0.1%
Dibutyl phthalate	DBP	84-74-2	
Benzyl butyl phthalate	BBP	85-68-7	
Di-isononyl phthalate	DINP	28553-12-0 68515-48-0	
Di-n-pentyl phthalate	DnPP	131-18-0	
Di-n-hexyl phthalate	DnHP	84-75-3	
Dicyclohexyl phthalate	DCHP	84-61-7	
Diisobutyl phthalate	DIBP	84-69-5	

Appendix 3a – REACH Regulation (EC) No 1907/2006 Annex XVII Entries 50 and 72

Polycyclic aromatic hydrocarbon (PAH)	CAS number	Restriction in toys* (mg/kg)	Restriction in articles* (mg/kg)
Benzo[a]pyrene	50-32-8	< 0.5	< 1
Benzo[e]pyrene	192-97-2	< 0.5	< 1
Benzo[a]anthracene	56-55-3	< 0.5	< 1
Chrysene	218-01-9	< 0.5	< 1
Benzo[b]fluoranthene (Benz[e]acephenanthrylene)	205-99-2	< 0.5	< 1
Benzo[j]fluoranthene	205-82-3	< 0.5	< 1
Benzo[k]fluoranthene	207-08-9	< 0.5	< 1
Dibenzo[a,h]anthracene	53-70-3	< 0.5	< 1

*The restrictions apply to the rubber and plastic components of both toys and articles which come into contact with the human skin or oral cavity.

Appendix 3b - Polycyclic aromatic hydrocarbons (German GS Mark)

Substance	Category 1 (mg/kg)	Category 2 (mg/kg)		Category 3 (mg/kg)	
		Toys	Other products according to ProdSG	Toys	Other products according to ProdSG
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[e]pyrene					
Benzo[a]anthracene					
Benzo[b]fluoranthene					
Benzo[j]fluoranthene					
Benzo[k]fluoranthene					
Chrysene					
Dibenz[a,h]anthracene					
Benzo[g,h,i]perylene					
Ideno[1,2,3-cd]pyrene					
Anthracene	< 1 (sum)	< 5 (sum)	< 10 (sum)	< 20 (sum)	< 50 (sum)
Fluoranthene					
Phenanthrene					
Pyrene					
Naphthalene	< 1	< 2	< 10		
Sum of 15 PAHs	< 1	< 5	< 10	< 20	< 50

Category 1: Material in contact with foodstuff, or materials intended to be put in mouth and toys for children aged under 36 months intended to come into contact with the skin.

Category 2: Materials not covered by Category 1 with foreseeable contact to skin for longer than 30 seconds (long term skin contact).

Category 3: Materials with foreseeable contact to skin for up to 30 seconds (short term skin contact).

Appendix

Appendix 4a - Restricted organotannic compounds and specific requirements for DOT

Organotin	Abbreviation
Tributyltin	TBT
Triphenyltin	TPhT
Dibutyltin	DBT
Diocetyl tin	DOT

Diocetyl tin (DOT) compounds shall not be used in the following articles:

- Textile articles intended to come into contact with the skin
- Gloves
- Footwear or parts of footwear intended to come into contact with the skin
- Childcare articles
- Wall and floor coverings
- Female hygiene products
- Nappies
- Two-component room temperature vulcanisation moulding kits.

Appendix 4b – EN 71-3:2019 Organic tin migration limits from toy materials

Organic tin cation	Migration Limit (mg/kg)		
	Category I	Category II	Category III
Methyl tin (MeT)	0.9 (total)	0.2 (total)	12 (total)
Dimethyl tin (DMT)			
Butyl tin (BuT)			
Di-n-propyl tin (DProT)			
Dibutyl tin (DBT)			
Tributyl tin (TBT)			
n-Octyl tin (MOT)			
Tetrabutyl tin (TeBT)			
Diphenyl tin (DPhT)			
Di-n-octyl tin (DOT)			
Triphenyl tin (TPhT)			

Appendix 5 – EN 71-3:2019 Migration of certain elements - migration limits

Element	mg/kg in dry, brittle, powder-like, pliable material category I	mg/kg in liquid or sticky toy material category II	mg/kg in scraped off toy material category III
Aluminium	2,250*	560*	28,130*
Antimony	45	11.3	560
Arsenic	3.8	0.9	47
Barium	1,500	375	18,750
Boron	1,200	300	15,000
Cadmium	1.3	0.3	17
Chromium (III)	37.5	9.4	460
Chromium (VI)	0.02	0.005	0.053
Cobalt	10.5	2.6	130
Copper	622.5	156	7,700
Lead	2.0	0.5	23
Manganese	1,200	300	15,000
Mercury	7.5	1.9	94
Nickel	75	18.8	930
Selenium	37.5	9.4	460
Strontium	4,500	1,125	56,000
Tin	15,000	3,750	180,000
Organic Tin	0.9	0.2	12
Zinc	3,750	938	46,000

The materials used in consumer products will predominantly be classified as category III materials

**The reduced migration limits for Aluminium apply from 20 May 2021 (Commission Directive (EU) 2019/1922)*

Appendix

Appendix 6 – Allergenic and carcinogenic disperse dyes

Allergenic disperse dyes	Allergenic and carcinogenic dyes
Disperse blue 3	Disperse yellow 3
Disperse blue 7	
Disperse blue 26	Carcinogenic dyes
Disperse blue 35	Acid red 26
Disperse blue 102	Basic red 9*
Disperse blue 106	Basic violet 3*
Disperse blue 124	Basic violet 14
Disperse brown 1	Direct black 38
Disperse orange 1	Direct blue 6
Disperse orange 3	Direct red 28
Disperse orange 37/59/76	Disperse blue 1*
Disperse red 1	Disperse orange 11
Disperse red 11	
Disperse red 17	Further forbidden dyes
Disperse yellow 1	Disperse orange 149
Disperse yellow 9	Disperse yellow 23
Disperse yellow 39	
Disperse yellow 49	

*Disperse dyes restricted to < 50mg/kg under REACH - Regulation (EC) No 1907/2006 Annex XVII Entry 72 (applies from 1 November 2020)

Appendix 7 – Restricted brominated flame retardants in REACH and/or RoHS 2

Flame retardant substances	
Monobromobiphenyls	Monobromobiphenyl ethers
Dibromobiphenyls	Dibromobiphenyl ethers
Tribromobiphenyls	Tribromobiphenyl ethers
Tetrabromobiphenyls	Tetrabromobiphenyl ethers
Pentabromobiphenyls	Pentabromobiphenyl ethers
Hexabromobiphenyls	Hexabromobiphenyl ethers
Heptabromobiphenyls	Heptabromobiphenyl ethers
Octabromobiphenyls	Octabromobiphenyl ethers
Nonabromobiphenyls	Nonabromobiphenyl ethers
Decabromobiphenyls	Decabromobiphenyl ethers

Appendix 8a – Persistent Organic Pollutants Regulation (EU) 2019/1021 – restrictions for Pesticides

Substance	CAS Number	Maximum allowable concentration in Articles
Aldrin	309-00-2	None detected
Chlordane	57-74-9	
Dichloro-diphenyl-trichloroethane (DDT)	50-29-3	
Dieldrin	60-57-1	
Endrin	72-20-8	
Heptachlor	76-44-8	
Hexachlorobenzene	118-74-1	
Mirex	2385-85-5	
Toxaphene	8001-35-2	
Hexachlorocyclohexane (including lindane)	58-89-9, 319-84-6, 319-85-7 and 608-73-1	
Chlordecone	143-50-0	
Pentachlorobenzene	608-93-5	
Pentachlorophenol	87-86-5	
Endosulfan	115-29-7, 959-98-8 and 33213-65-9	

Appendix

Appendix 8b – Persistent Organic Pollutants Regulation (EU) 2019/1021 as amended by (EU) 2020/784 – restrictions for industrial chemicals

Substance	CAS Number	Maximum allowable concentration in Articles
Hexachlorobenzene	118-74-1	None detected
Polychlorinated biphenyls (PCBs)	1336-36-3 and others	< 0.005% (50mg/kg)
Hexabromobiphenyl	36355-01-8	None detected
Hexabromocyclododecane	25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8	< 0.01% (100mg/kg)
Bromodiphenyl ethers (Tetra-, Penta, Hexa-, Hepta- and Deca-)	40088-47-9, 32534-81-9, 36483-60-0, 68928-80-3 and 1163-19-5	< 0.05% sum of (500mg/kg)
Hexachlorobutadiene	87-68-3	None detected
Pentachlorobenzene	608-93-5	None detected
Perfluorooctane sulfonic acid (PFOS) and its derivatives	1763-23-1, 2795-39-3, 29457-72-5, 29081-56-9, 70225-14-8, 56773-42-3, 251099-16-8, 4151-50-2, 31506-32-8, 1691-99-2, 24448-09-7, 307-35-7 and others	< 0.1% (1000mg/kg)
Polychlorinated naphthalenes	70776-03-3 and others	None detected
Short-chained chlorinated paraffins (SCCPs)	85535-84-8 and others	< 0.15% (1500 mg/kg)
Perfluorooctanoic acid (PFOA)	335-67-1	< 0.0000025% (25µg/kg)
Perfluorooctanoic acid related compounds	-	< 0.0001% (1mg/kg)



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