

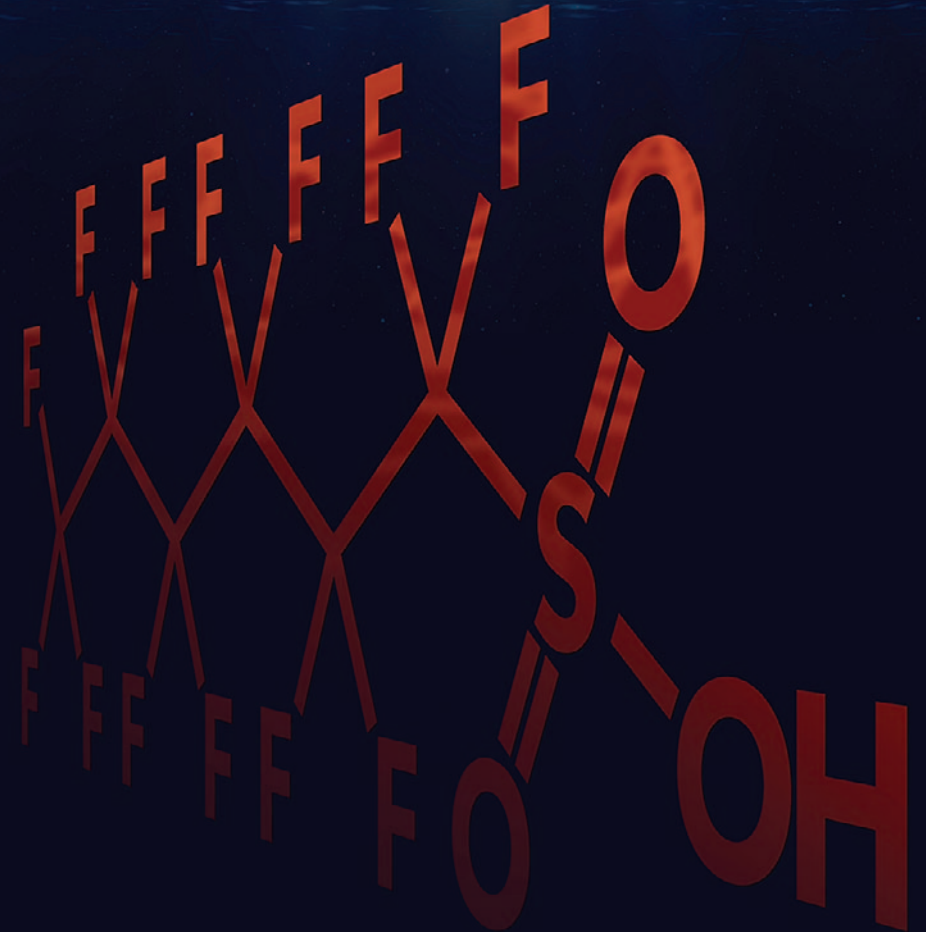


Footwear Restricted Substances List

Issue 02, November 2024

This restricted substances list aims to identify substances that are relevant to footwear 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.

Produced in association with



Substance Summary

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

Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Arsenic compounds	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 19 UK REACH⁴ Annex XVII Entry 19 	< 1mg/kg (shall not be used in the preservation of wood)	EN 16711-1:2015						●		●
Azo colourants	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ 	< 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 17234-1:2020 Leather EN ISO 17234-2:2011 Leather for 4-aminoazobenzene		●	●					
	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 43 UK REACH⁴ Annex XVII Entry 43 (see also REACH candidate list) 	< 30mg/kg of each amine for dyed products in direct contact with the skin (amines listed in Appendix 1)		●	●	●					
	<ul style="list-style-type: none"> China GB 20400-2006 (leather) China GB 18401-2010 (textiles) 	< 20mg/kg (Chinese requirement for textiles)									
Benzene	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 5 UK REACH⁴ Annex XVII Entry 5 	< 1000mg/kg in mixtures	GC-MS Headspace								●
	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ 	< 5mg/kg			●	●	●				
Brominated flame retardants	<ul style="list-style-type: none"> UK REACH⁴ Annex XVII Entry 67 (see also REACH candidate list) 	< 1000mg/kg of Decabromodiphenyl ether (Deca BDE)	EN ISO 17881-1:2016	●	●	●	●	●	●		
	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 45 UK REACH⁴ Annex XVII Entry 45 (see also REACH candidate list) 	< 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 2a)									
	<ul style="list-style-type: none"> RoHS 2 Directive - 2011/65/EU (for products containing electrical components)⁶ 	< 1000mg/kg of Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) (see Appendix 3)		●	●	●	●	●	●	●	
	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 8 UK REACH⁴ Annex XVII Entry 8 	Polybrominated biphenyls shall not be used in textile articles intended to come into contact with the skin (see Appendix 3)			●	●					

● Legislative requirement ● Specification or recommended requirement

Synthetic rubber only * Expressed on the weight of the paint on the painted article

Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Cadmium	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 23 UK REACH⁴ Annex XVII Entry 23 	< 100mg/kg in plastic and rubber	EN 1122:2001 EN 17072-2:2022 EN 16711-1:2015				●	● [#]			
		< 100mg/kg in metal parts of jewellery								●	
		< 1000mg/kg in paint							● [*]	● [*]	
	<ul style="list-style-type: none"> California SB 929 - Jewellery for children under 6 	< 300mg/kg								●	
	<ul style="list-style-type: none"> 'Children's safe products' - Washington State Law 	< 40mg/kg								●	
C ₁₀ to C ₁₃ 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 2a)	EN ISO 18219-1:2021 EN 12766-1:2000	●			●	●			●
Chlorotoluenes	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ 	< 1mg/kg of p-chlorobenzotrichloride, benzotrichloride or benzyl chloride	EN 17137:2018		●	●	●				
Chromium VI	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 47 UK REACH⁴ 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)	●							
	<ul style="list-style-type: none"> EU Toy Safety Directive (2009/48/EC) (for children's toys - requirement for all materials)⁷ UK Toy Safety Regulations 	Category I materials < 0.02mg/kg Category II materials < 0.005mg/kg Category III materials < 0.053mg/kg	EN 71-3:2019+A1:2021	●	●	●	●	●	●	●	●
Dimethylacetamide (DMAC)	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ (see also REACH candidate list) 	< 3000mg/kg	EN ISO 16189:2021 (modified) SATRA SOP CAT-067		●	●	●				
Dimethylformamide (DMFa)	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ 	< 3000mg/kg	EN ISO 16189:2021 EN 16778:2016 (method for gloves) SATRA SOP CAT-067		●	●	●				
	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 76 	< 3000mg/kg									●
	<ul style="list-style-type: none"> SATRA recommended guideline limit for PU materials (see also REACH candidate list) 	< 1000mg/kg					●				

● Legislative requirement ● Specification or recommended requirement

Synthetic rubber only * Expressed on the weight of the paint on the painted article

Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Dimethylfumarate (DMFu)	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 61 UK REACH⁴ Annex XVII Entry 61 	< 0.1mg/kg of product or part of product	EN ISO 16186:2021 (leather) EN 17130:2019 (textiles)	●	●	●					
Disperse dyes	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ (see also REACH candidate list) 	< 50mg/kg of Disperse Blue 1, Basic Red 9 and Basic Violet 3	DIN 54231:2022 ISO 16373 Parts 1, 2 and 3:2014 SATRA TM459:2020			●					
	<ul style="list-style-type: none"> Germany - §30 of the German Food and Feed Code (LFGB) 	< 75mg/kg (dyes listed in Appendix 4)				●					
Extractable chromium	<ul style="list-style-type: none"> General Product Safety⁸ 	< 250mg/kg	BS 6684:1989 Appendix A SATRA TM358:1999	●							
Extractable metals	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ 	< 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, total Cr, As, Pb) EN ISO 17075-2:2017 (Cr VI)		●	●	●	●			
	<ul style="list-style-type: none"> EU Toy Safety Directive (2009/48/EC) for accessible materials for children under six years⁸ UK Toy Safety Regulations China GB21550-2008 Taiwan CNS15503-2018 (children's products) 	See Appendix 5	EN 71-3:2019+A1:2021 GB 21550 clause 5.4 CNS 4747-2	●	●	●	●	●	●	●	
Formaldehyde	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 77⁵ (applies from 6th August 2026) 	< 0.062mg/m ³ for furniture and wood-based articles < 0.080mg/m ³ for all other articles	EN 16516:2017+A1:2020	●	●	●	●	●	●	●	
	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 72⁵ UK REACH⁴ Annex XVII Entry 72⁵ 	< 75mg/kg			●	●					
	<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	EN ISO 17226-1:2021 (leather) EN ISO 14184-1:2011 (textiles) - Free & Hydrolysed formaldehyde								
	<ul style="list-style-type: none"> EU Toy Safety Directive (2009/48/EC) as amended by (EU) 2019/1929 UK Toy Safety Regulations 	< 30mg/kg in textile, leather and paper toy materials	EN ISO 14184-2:2011 (textiles) Released formaldehyde	●	●	●					
	<ul style="list-style-type: none"> China GB 20400-2006 (leather only) 	< 20mg/kg in children's wear under 36 months < 75mg/kg in textiles in skin contact < 300mg/kg in natural and synthetic leather	EN ISO 14184-3:2023 (textiles) - Free & Hydrolysed formaldehyde - liquid chromatography								
	<ul style="list-style-type: none"> SATRA recommended guideline limit 	< 75mg/kg in leather		●					●		

● Legislative requirement ● Specification or recommended requirement

Synthetic rubber only * Expressed on the weight of the paint on the painted article

Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Heavy metals (Pb, Cd, Hg & Cr VI)	• European Packaging Directive (2004/12/EC)	< 100mg/kg sum of Pb, Cd, Hg and Cr VI	EN 1122:2001 (modified) EN 16711-1:2015				●				
	• RoHS 2 Directive 2011/65/EU (for products containing electrical components) ⁶	Pb < 1000mg/kg Cd < 100mg/kg Hg < 1000mg/kg Cr VI < 1000mg/kg		●	●	●	●	●	●	●	
Lead	• REACH ³ Annex XVII Entry 63	< 0.1% by weight of the PVC article (applies from 29th November 2024)	SATRA SOP CAT-029 (CPSC-CH-E1002-08.3 for non-metal items) EN 16711-1:2015 EN 17072-2:2022				●				
	• REACH ³ Annex XVII Entry 63 • UK REACH ⁴ Annex XVII Entry 63	< 0.05% in metal parts of jewellery ≤ 0.05% in accessible parts that may be placed in the mouth by children								●	
	• 'Children's safe products' - Washington State Law	< 90mg/kg	SATRA SOP CAT-030 (CPSC-CH-E1001-08.3 for metal items) SATRA SOP CAT-029 (CPSC-CH-E1002-08.3 for non-metal items) SATRA SOP CAT-028 (CPSC-CH-E1003-09.1 for surface coatings)	●	●	●	●	●	●	●	●
	• Illinois - Public Act 097-0612 - Lead Poisoning Act	< 40mg/kg in children's products									
	• CPSIA 2008 (applies to children's products)	< 100mg/kg in substrates < 90mg/kg in surface coatings									
Nickel	• REACH ³ Annex XVII Entry 27 • UK REACH ⁴ 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 12472:2020 (Accelerated Wear & Corrosion) EN 1811:2023 (Nickel Release)							●	
1-methyl-2-pyrrolidone (NMP)	• REACH ³ Annex XVII Entry 71 • UK REACH ⁴ Annex XVII Entry 71 (see also REACH candidate list)	< 3000mg/kg in mixtures	EN ISO 19070:2016 SATRA SOP CAT-067	●							●
	• REACH ³ Annex XVII Entry 72 ⁵ • UK REACH ⁴ Annex XVII Entry 72 ⁵ (see also REACH candidate list)	< 3000mg/kg			●	●	●				

Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Nonyl phenol (NP) and nonyl phenol ethoxylates (NPE)	<ul style="list-style-type: none"> REACH³ Annex XVII entries 46 and 46a⁹ UK REACH⁴ Annex XVII entries 46 and 46a⁹ 	< 1000mg/kg in mixtures < 100mg/kg guidance limit for articles < 100mg/kg for NPE only ⁹	EN ISO 18218-1:2023 (leather) EN ISO 18218-2:2019 (leather) EN ISO 18254-1:2016 (textiles)	●	● ⁹	● ⁹					●
Octyl phenol (OP) and octyl phenol ethoxylates (OPE)	<ul style="list-style-type: none"> No current EU-wide legislation - SATRA recommended guideline limit (see also REACH candidate list for OPE) 	< 1000mg/kg in mixtures < 100mg/kg for articles		●	●	●					●
Organostannic compounds (organotins)	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 20 UK REACH⁴ Annex XVII Entry 20 	< 0.1% (restrictions listed in Appendix 6a)	SATRA TM277:2023 PD CEN ISO/TS 16179:2012 EN ISO 22744-1:2020 (textiles) EN ISO 22744-2:2020 (textiles)	●	●	●	●	●			●
	<ul style="list-style-type: none"> Japan Law 112 	< 1mg/kg (TBT only in textiles) < 0.5mg/kg (TBT in children's products under 36 months) < 1mg/kg other organotins									
	<ul style="list-style-type: none"> EU Toy Safety Directive (2009/48/EC) (for children's toys - requirement for all materials)⁹ UK Toy Safety Regulations 	See Appendix 6b	EN 71-3:2019+A1:2021								
Orthophenylphenol (OPP)	<ul style="list-style-type: none"> No current EU-wide legislation - SATRA recommended guideline limit 	< 500mg/kg guidance limit	EN ISO 17070:2015 EN ISO 13365-1:2020	●	●				●		●
Pentachlorophenol (PCP), its salts and esters	<ul style="list-style-type: none"> UK REACH⁴ 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)								●
	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021 	≤ 5mg/kg (see Appendix 2b)		●	●				●		●
	<ul style="list-style-type: none"> German Gefahrstoff Verordnung (Hazardous Substances Ordinance) Annex IV, No 12 	< 5mg/kg									
Perfluoroalkyl and polyfluoroalkyl substances (PFAS)	<ul style="list-style-type: none"> California Assembly Bill No 1817 	< 100mg/kg total organic fluorine (from 1st January 2025) < 50mg/kg total organic fluorine (from 1st January 2027)	In-house laboratory methods	●	●	●	●				
Perfluorocarboxylic acids (PFCAs), their salts and precursors	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 68¹⁰ 	< 25µg/kg sum of PFCAs and their salts < 260µg/kg of the sum of PFCA related substances (see Appendix 7)	PD CEN/TS 15968:2010 EN ISO 23702-1:2023 EN 17681-1:2022 EN 17681-2:2022	●	●	●	●	●	●		●

● Legislative requirement
● Specification or recommended requirement

Synthetic rubber only
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Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Perfluorooctanoic acid (PFOA), its salts and PFOA related compounds	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021¹⁰ UK REACH⁴ Annex XVII Entry 68¹⁰ 	< 25µg/kg PFOA and its salts in substances, mixtures or articles (see Appendix 2a) < 1mg/kg PFOA related compounds	PD CEN/TS 15968:2010 EN ISO 23702-1:2023 EN 17681-1:2022 EN 17681-2:2022								
Perfluorooctanyl sulphonate (PFOS) and its derivatives	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021¹⁰ 	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 2a)									
Perfluorohexane-1-sulphonic acid (PFHxS), its salts and PFHxS related compounds	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021 (as amended by (EU) 2023/1608)¹⁰ 	< 25µg/kg PFHxS and its salts in substances, mixtures or articles < 1mg/kg PFHxS related compounds (see Appendix 3a)	PD CEN/TS 15968:2010 EN ISO 23702-1:2023 EN 17681-1:2022 EN 17681-2:2022								
Pesticides	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EU) 2019/1021 	See Appendix 2b	EN ISO 22517:2021								
pH value	<ul style="list-style-type: none"> SATRA recommended guideline limits¹¹ 	3.5 < pH < 9.5 (textiles) > 3.2 (leather)	EN ISO 4045:2018 (leather) EN ISO 3071:2020 (textiles/other materials)								
Phenylmercury compounds: Phenylmercury 2-ethylhexanoate Phenylmercury acetate Phenylmercury neodecanoate Phenylmercury octanoate Phenylmercury propionate	<ul style="list-style-type: none"> REACH³ Annex XVII Entry 62 UK REACH⁴ Annex XVII Entry 62 	< 0.01% by weight of Mercury	EN 16711-1:2015								

Substance	Legislation	Requirement	Test Methods	Applicable Materials							
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ²
Phthalates	<ul style="list-style-type: none"> • REACH³ Annex XVII Entries 51 and 52 • UK REACH⁴ 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 8a)	EN ISO 16181-1:2021 EN ISO 16181-2:2021 EN ISO 14389:2022 CPSC-CH-C1001-09.4 (2018)								
	<ul style="list-style-type: none"> • REACH³ Annex XVII Entry 72⁵ • UK REACH⁴ Annex XVII Entry 72⁵ 	< 0.1% sum of the 5 phthalates listed in Appendix 8b 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									
	• RoHS 2 Directive - 2011/65/EU (for products containing electrical components) ⁶	< 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 8c									
Polycyclic aromatic hydrocarbons (PAHs)	<ul style="list-style-type: none"> • REACH³ Annex XVII Entry 50 • UK REACH⁴ Annex XVII Entry 50 • German Product Safety Act, ProdSG - Geprüfte Sicherheit (GS Mark) (see also REACH candidate list) 	See Appendix 9a+9b	EN ISO 16190:2021 EN 17132:2019 (textiles)				●	●			
	<ul style="list-style-type: none"> • REACH³ Annex XVII Entry 72⁵ • UK REACH⁴ Annex XVII Entry 72⁵ 				●	●	●	●			
Quinoline	<ul style="list-style-type: none"> • REACH³ Annex XVII Entry 72⁵ • UK REACH⁴ Annex XVII Entry 72⁵ 	< 50mg/kg	DIN 54231:2022 SATRA TM459:2020		●	●					
Tetrachlorophenol (TeCP) and Trichlorophenol (TCP)	• No current EU-wide legislation - SATRA recommended guideline limit (see also REACH candidate list)	< 5mg/kg guidance limit	EN ISO 17070:2015 PD CEN/TR 14823:2003 (wood) EN 717-3:1996 (wood)	●	●				●		●

● Legislative requirement ● Specification or recommended requirement

Synthetic rubber only * Expressed on the weight of the paint on the painted article

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 repellant treatments or polishes).
- 3 REACH – Regulation (EC) No 1907/2006.
- 4 UK REACH Statutory Instruments 2020 No. 1577 Exiting the European Union Consumer Protection Environmental Protection Health and Safety. The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.
- 5 REACH and UK REACH Annex XVII Entry 72 applies to footwear, clothing and textiles which come into contact with human skin to an extent similar to clothing.
- 6 The RoHS 2 directive for items which contain electronic components has requirements for Phthalates, Pb, Cd, Hg, Cr VI and PBDE/PBB. RoHS 2 applies to all materials in a product classified as EEE (Electrical or Electronic Equipment).
- 7 Chrome-tanned leather may not meet the Chromium III requirement for category III materials specified within EN 71-3:2019+A1:2021 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 Applicable to products intended for children under 6 years where there is a risk of chewing or sucking.
- 9 Commission regulation (EU) 2016/26 limits the concentration of NPE in textiles which can reasonably be expected to be washed in water during their normal lifecycle to a maximum of 0.01%.
- 10 Applicable only when a stain or water resistant treatment has been applied.
- 11 Within the EU and the UK, the requirement for pH is mandatory for PPE (personal protective equipment) only.

This SATRA Footwear 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 California 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 1st August 2024).

Appendix

Appendix 1 – Restricted aromatic amines in REACH Regulation (EC) No 1907/2006 Annex XVII 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 17234-1:2020 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 – Persistent Organic Pollutants Regulation (EU) 2019/1021 as amended by (EU) 2023/1608 – 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)
Perfluorohexane-1-sulphonic acid (PFHxS) and its salts	355-46-4	< 0.0000025% (25µg/kg)
Perfluorohexane-1-sulphonic acid (PFHxS) related substances	-	< 0.0001% (1mg/kg)

Appendix

Appendix 2b – Persistent Organic Pollutants Regulation (EU) 2019/1021

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	≤ 5mg/kg
Endosulfan	115-29-7, 959-98-8 33213-65-9	
Pentachlorophenol	87-86-5	

Appendix 3 – Restricted brominated flame retardants in REACH Regulation (EC) No 1907/2006 Annex XVII Entry 8 and RoHS 2

REACH Annex XVII entry 8		
Substance	CAS number	Restriction
3-bromobiphenyl	2113-57-7	Shall not be used in textile articles intended to come into contact with the skin (None detected)
Decabromo-1,1'-biphenyl	13654-09-6	
4-bromobiphenyl	92-66-0	
4,4'-dibromobiphenyl	92-86-4	
Hexabromo-1,1'-biphenyl	36355-01-8	
Nonabromo-1,1'-biphenyl	27753-52-2	
Tetrabromo(tetrabromophenyl)benzene	27858-07-7	
Polybrominatedbiphenyls (except hexabromo-biphenyl)	59536-65-1	
RoHS 2		
Polybrominated diphenyl ethers (PBDE)	-	< 0.1%
Polybrominatedbiphenyls	59536-65-1	< 0.1%

Appendix

Appendix 4 – Allergenic and carcinogenic disperse dyes

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

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

Appendix 5 – EN 71-3:2019+A1:2021 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

Appendix

Appendix 6a - Restricted organotannic compounds and specific requirements for DOT in REACH Regulation (EC) No 1907/2006 Annex XVII Entry 20

Organotin	Abbreviation
Tributyltin	TBT
Triphenyltin	TPhT
Dibutyltin	DBT
Diocetyl tin	DOT

Diocetyl tin (DOT) compounds shall not be present above 0.1% by weight of tin 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 6b – EN 71-3:2019+A1:2021 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 7 – PFCAs Restricted in REACH Regulation (EC) No 1907/2006 Annex XVII Entry 68

Substance	CAS Number
Tricosafluorododecanoic acid (PFDoDA)	307-55-1
Nonadecafluorodecanoic acid (PFDA)	335-76-2
Pentacosafuorotridecanoic acid (PFTrDA)	72629-94-8
Heptacosafuorotetradecanoic acid (PFTDA)	376-06-7
Henicosafuoroundecanoic acid (PFUnDA)	2058-94-8
Perfluorononan-1-oic acid (PFNA)	375-95-1

Appendix 8a – 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

Appendix 8b – 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 8c – 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 9a – PAHs restricted in 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

Appendix 9b - Polycyclic aromatic hydrocarbons (German GS Mark)

Substance	CAS number	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	50-32-8	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[e]pyrene	192-97-2					
Benzo[a]anthracene	56-55-3					
Benzo[b]fluoranthene	205-99-2					
Benzo[j]fluoranthene	205-82-3					
Benzo[k]fluoranthene	207-08-9					
Chrysene	218-01-9					
Dibenz[a,h]anthracene	53-70-3					
Benzo[g,h,i]perylene	191-24-2					
Indeno[1,2,3-cd]pyrene	193-39-5					
Anthracene	120-12-7	< 1 (sum)	< 5 (sum)	< 10 (sum)	< 20 (sum)	< 50 (sum)
Fluoranthene	206-44-0					
Phenanthrene	85-01-8					
Pyrene	129-00-0					
Naphthalene	91-20-3	< 1	< 2		< 10	
Sum of 15 PAHs		< 1	< 5	< 10	< 20	< 50
<div>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.</div> <div>Category 2: Materials not covered by Category 1 with foreseeable contact to skin for longer than 30 seconds (long term skin contact).</div> <div>Category 3: Materials with foreseeable contact to skin for up to 30 seconds (short term skin contact).</div>						



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