

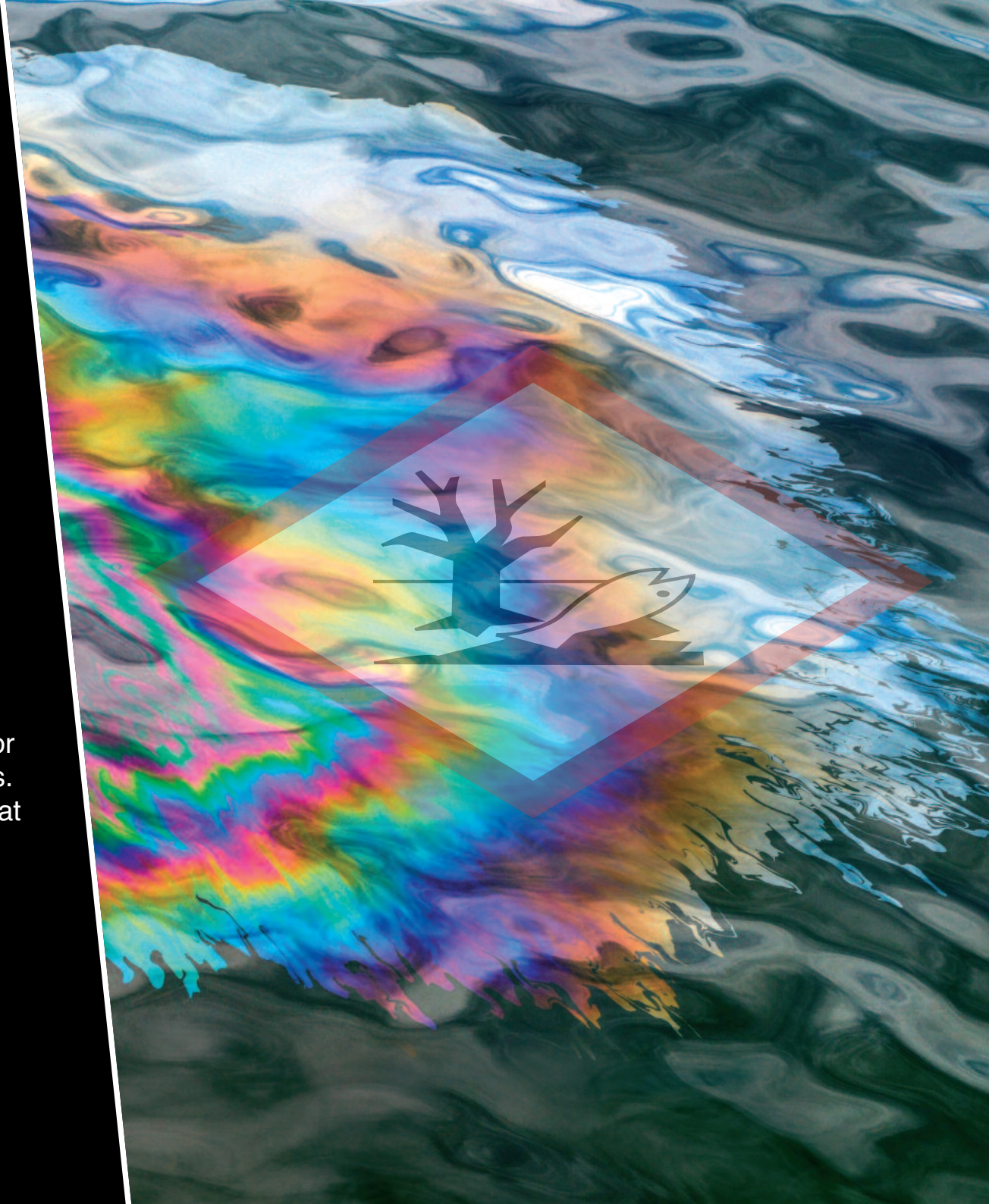


Footwear Restricted Substances List

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This SATRA Footwear Restricted Substances List aims to identify substances that are relevant to the footwear industry 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

Allergenic disperse dyes	Applicable to synthetic textiles, restricted in national legislation.
Azo colourants	Applicable to dyed leathers and textiles in direct contact with the skin.
Brominated flame retardants	Only applicable in consumer goods where flame retardants may have been used, and where electrical components are present (RoHS 2).
Chromium VI	Applicable to all leathers, coming into contact with the skin.
Dimethyl fumarate (DMFu)	Applicable to all materials (but primarily relevant to materials where biocides are required).
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 leathers and textiles – some national legislation, but commonly listed in retailer and brand specifications – especially in children's clothing.
Heavy metals (Pb, Cd, Hg & Cr VI)	Applicable where electrical components are present (RoHS 2), and packaging materials.
Nickel	Applicable to metal items in direct and prolonged contact with the skin.
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	Applicable to leathers and natural materials where a fungicide has been applied.
PFOS (perfluorooctanyl sulphonates), PFOA (perfluorooctanoic acid)	Applicable to textiles and leathers only when a stain or water resistant treatment has been applied.
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.
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.

Substance	Legislation	Requirement	Test Methods	Applicable Materials								
				Leather	Natural textile	Synthetic textile	Plastic ¹	Rubber	Wood	Metallic trim	Mixtures ⁸	
Azo colourants	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 43 Korean REACH Turkish Official Gazette No. 28431 (applies to all materials) China GB 20400-2006 	<p>< 30mg/kg of each amine for dyed products in direct contact with the skin (amines listed in Appendix 1)</p> <p>< 20mg/kg (Chinese requirement for textiles)</p>	<p>GB/T 17592-2011 – textiles</p> <p>BS EN 14362-1:2012 Textiles (natural and synthetic materials)</p> <p>BS EN ISO 14362-3:2012 Textiles for 4 – aminoazobenzene</p> <p>BS EN ISO 17234-1:2015 Leather</p> <p>BS EN ISO 17234-2:2011 Leather for 4 – aminoazobenzene</p> <p>GB/T 19942-2005 – leather</p>	●	●	●						
Pentachlorophenol (PCP)	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 22 Spanish specification UNE 59950:2007² Korean REACH 	<p>< 1000mg/kg</p> <p>Germany < 5mg/kg;</p> <p>Spain < 5mg/kg leather; < 0.05mg/kg textiles)</p>	<p>BS EN ISO 17070:2015</p> <p>PD CEN/TR 14823:2003 (wood)</p> <p>BS EN 717–3:1996 (wood)</p>	●	●				●		●	
Tetrachlorophenol (TecP)	<ul style="list-style-type: none"> No legislation, but commonly quoted in brand and retailer specifications 	<p>< 5mg/kg guidance limit</p>	<p>BS EN ISO 17070:2015</p> <p>PD CEN/TR 14823:2003 (wood)</p> <p>BS EN 717–3:1996 (wood)</p>	●	●				●		●	
Trichlorophenol (TCP)												
Nickel	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 27 	<p>< 0.5µg/cm²/week for products in prolonged contact with the skin</p> <p>< 0.2µg/cm²/week for ear/body piercing posts</p>	<p>BS EN 12472:2005 Wear & Corrosion</p> <p>BS EN 1811:2011 + A1:2015 Nickel Migration</p>							●		
Chromium VI	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 47 (amended by Regulation (EU) No 301/2014) Germany – 18th Regulation on the amendment of the German ordinance on commodities of 3rd August 2010. EU Directive 89/686/EC for Personal Protective Equipment 	<p>< 3mg/kg</p> <p>(Regulation (EU) No 301/2014 applies to leather coming into contact with the skin)</p>	<p>EN ISO 17075:2007</p>	●								
	<ul style="list-style-type: none"> Spanish specification UNE 59950:2007² 	<p>< 10mg/kg</p>										
	<ul style="list-style-type: none"> Toy safety directive 2009/48/EC (for children's toys – requirement for all materials) 	<p>Category I materials < 0.02mg/kg</p> <p>Category II materials < 0.005 mg/kg</p> <p>Category III materials < 0.2mg/kg</p>	<p>EN 71-3:2013 + A1:2014</p>									

● 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 ⁹		
Phthalates	• 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)	BS EN 15777:2009 BS EN 14372:2004 EN ISO TS 16181:2011 BS EN ISO 14389:2014 CPSC-CH-C1001-09:2010										
	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry numbers 51 and 52 (see also REACH candidate list) • CPSIA section 108 • Turkish Official Gazette No. 28431 (applies to all materials) • 'Children's safe products' – Washington State Law	< 0.1% sum of DIDP, DINP, DNOP (products intended to be mouthed) < 0.1% sum of DEHP, DBP, BBP (childcare articles and toys) (Restricted phthalates listed in full in Appendix 2)						●					
	• RoHS 2 -2011/65/EU (for products containing electrical components) ⁵	< 0.1% of DBP, DEHP, BBP and DIBP (effective from 22 July 2019)											
Total cadmium	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 23 (amended by Regulation (EU) No 494/2011 and Regulation (EU) No 835/2012)	< 100mg/kg # Synthetic rubber	BS EN 1122:2001 BS EN 17072-2:2011 BS EN 16711-1:2015				●	● #					
	• REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 23 (amended by Regulation (EU) No 494/2011 and Regulation (EU) No 835/2012)	< 100mg/kg for metal parts of jewellery	BS EN 1122:2001 BS EN 17072-2:2011 BS EN 16711-1:2015								●		
	• California SB 929 – Jewellery for children under 6	< 300mg/kg											
	• 'Children's safe products' – Washington State Law	< 40mg/kg											
Total lead	• 'Children's safe products' – Washington State Law	< 90mg/kg	SATRA SOP CAT-030 (CPSC-CH-E1001-08.2 for metal items)										
	• Illinois – Public Act 097-0612 - Lead Poisoning Act	< 40mg/kg in children's products	SATRA SOP CAT-029 (CPSC-CH-E1002-08.2 for non-metal items)										
	• KC Mark (Safety Quality Mark Act)	< 90mg/kg (children under 12) (textiles)	SATRA SOP CAT-028 (CPSC-CH-E1003-09.1 for surface coatings)	●	●	●	●	●	●	●	●	●	
	• CPSIA 2008 (applies to children's products)	< 100mg/kg in substrates < 90mg/kg in surface coatings											
	• REACH - Regulation (EC) No 1907/2006 Annex XVII entry number 63 (amended by Regulation (EU) No 2015/628 and 836/2012)	< 0.05% in metal parts of jewellery ≤ 0.05% in accessible parts that may be placed in the mouth by children	SATRA TM443: 2013 SATRA TM443: 2013								●		
			●	●	●	●	●	●	●	●	●		
Polycyclic aromatic hydrocarbons (PAHs)	• REACH 1907/2006 annex XVII Entry number 50 (as recommended by EU Regulation 1272/2013) • Germany - §30 of the German Food and Feed Code (LFGB)	See Appendix 3a + 3b	PD CEN/TS 16190:2013 SATRA SOP CAT-018 (ZEK.01.4-08)				●	●					

- 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 ³	
Dimethyl fumarate (DMFu)	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 61 (amended by Regulation (EU) No 412/2012) Korean REACH 	< 0.1mg/kg of product or part of product	SATRA DD09/02 PD CEN ISO/TS 16186: 2012	●	●	●						
Organostannic compounds (organotins)	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 20 (amended by Regulation (EU) No 276/2010) 	< 0.1% (restrictions listed in Appendix 4a)	SATRA TM277:2011 PD CEN ISO/TS 16179:2012									
	<ul style="list-style-type: none"> Japan Law 112 Korean REACH + KC Mark (Safety Quality Mark Act) 	< 1mg/kg (TBT only in textiles) < 0.5 TBT under 36 months < 1mg/kg others)		●	●	●	●	●				●
	<ul style="list-style-type: none"> Toy safety directive 2009/48/EC (for children's toys – requirement for all materials) 	See Appendix 4b	EN 71-3:2013 + A1:2014									
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	BS EN ISO 17226:2008 Leather BS EN ISO 14184-1:2011 Textiles – Free & Hydrolysed formaldehyde BS EN ISO 14184-2:2011 Textiles – Released formaldehyde	●	●	●						
	<ul style="list-style-type: none"> Spanish specification UNE 59950:2007² 	< 150mg/kg – Leather < 75mg/kg – Textiles	BS EN ISO 17226:2008 Leather BS EN ISO 14184-1:2011 Textiles – Free & Hydrolysed formaldehyde BS EN ISO 14184-2:2011 Textiles – Released formaldehyde									
	<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"> No current EU-wide legislation – SATRA recommended guideline limits 	< 150mg/kg – Leather < 75mg/kg – Textiles < 16mg/kg – Children's wear										
C₁₀ to C₁₃ Chloroalkanes, SCCP (short chained chlorinated paraffins)	<ul style="list-style-type: none"> Regulation (EU) No 2015/2030 amending Regulation (EC) No 850/2004 (see also REACH candidate list) 	< 1% in mixtures	BS EN ISO 18219:2015	●		●	●					●
		< 0.15% in final products	EN 12766-1:2000									
Extractable metals³	<ul style="list-style-type: none"> Toy safety directive for accessible materials for children under six years, 2009/48/EC China GB21550-2008 Taiwan CNS15503 (children's product) 	See Appendix 5a + 5b See Appendix 5b	BS EN 71-3:1994+ A1 & AC:2002 BS EN 71-3: 2013 + A1:2014 GB 21550 clause 5.4 CNS 4747-2	●	●	●	●	●	●	●		
Extractable chromium	<ul style="list-style-type: none"> General Product Safety⁴ 	< 250mg/kg	BS 6684:1989 Appendix A SATRA TM358:1999	●								
Allergenic disperse dyes	<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)	DIN 54231 TLC Method ISO 16373 Parts 1, 2 and 3:2014			●						

- 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 ³	
PFOS (perfluorooctanyl sulphonates)	<ul style="list-style-type: none"> Regulation (EC) No 850/2004 Persistent Organic Pollutants (amended by Regulation (EU) No 757/2010) 	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 preparations	PD CEN/TS 15968:2010	●*	●*	●*						●*
PFOA (perfluorooctanoic acid) and its esters and salts	<ul style="list-style-type: none"> Norwegian Product Regulation FOR 2004-06-01 nr 922 section 2-32 (effective 1st June 2014) 	< 1µg/m ² textiles and carpets < 0.1% final products < 0.001% liquids and substances										
Nonyl phenol (NP) and nonyl phenol ethoxylates (NPE)	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 Annex XVII Entry number 46 (applies to mixtures) Regulation (EU) No 2016/26⁵ 	< 1000mg/kg in mixtures 100mg/kg guidance limit for final product < 100mg/kg for NPE only ⁵	SATRA SOP CAT-020 pr EN FDIS 18218 part 1 or 2 (leathers)	● ⁵	● ⁵	● ⁵						●
Octyl phenol (OP) and octyl phenol ethoxylates (OPE)	<ul style="list-style-type: none"> No current EU-wide legislation - SATRA recommended guideline limit 	< 1000mg/kg in mixtures < 50mg/kg for final product	SATRA SOP CAT-020 pr EN FDIS 18218 part 1 or 2 (leathers) DC BS EN ISO 18254 (textiles)	●	●	●						●
Heavy metals (Pb, Cd, Hg & Cr VI)	<ul style="list-style-type: none"> European Packaging Directive 2004/12/EC 	< 100mg/kg total	BS EN 1122:2001 (modified)				●					
	<ul style="list-style-type: none"> RoHS 2-2011/65/EU (for products containing electrical components) ⁶ 	< 1000mg/kg total and Cd < 100mg/kg	BS EN 1122:2001 (modified)	●	●	●	●	●	●	●	●	
Brominated flame retardants (listed in Appendix 7)	<ul style="list-style-type: none"> REACH - Regulation (EC) No 1907/2006 annex XVII Entry number 45 	< 1000mg/kg of Octabromodiphenyl ether (Octa BDE)	GC-ECD BS EN ISO 17881-1:2016	●	●	●	●					
	<ul style="list-style-type: none"> Persistent Organic Pollutants Regulation (EC) No 850/2004, as amended by Regulation (EU) No 757/2010 (for non-EEE) 	< 10mg/kg of Tetrabromodiphenyl ether (Tetra BDE), Pentabromodiphenyl ether (Penta BDE), Hexabromodiphenyl ether (Hexa BDE), or Heptabromodiphenyl ether (Hepta BDE)		●	●	●	●					
	<ul style="list-style-type: none"> No current EU wide legislation – SATRA recommended guideline 	< 1000mg/kg Deca BDE	GC-ECD BS EN ISO 17881-1:2016	●	●	●	●	●	●	●	●	
	<ul style="list-style-type: none"> RoHS 2-2011/65/EU (for products containing electrical components) ⁶ 	< 1000mg/kg of Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)	GC-ECD BS EN ISO 17881-1:2016	●	●	●	●	●	●	●	●	
pH value	<ul style="list-style-type: none"> Requirement within PPE directive 89/686/EC Korean REACH 	Textiles: 3.5 < pH < 9.5 Leathers: > 3.2 Korea: Textiles: 4 < pH < 9	BS EN ISO 4045:2008 – Leather BS EN ISO 3071:2006 – Textiles/other materials	● ⁷	● ⁷	● ⁷	● ⁷					

- * Where coating/treatment has been applied
- Legislative requirement
- Specification or recommended requirement

Notes

1. Plastics includes coated materials, these materials should be tested for relevant requirements for both coatings and substrates.
2. Although the Spanish national standard UNE 59950:2007 was withdrawn in 2013, it is SATRA's understanding that Spanish customs continue to reject products that do not conform to these requirements.
3. Chrome-tanned leather may not meet the Chromium III requirement for category III materials specified within EN 71-3:2013+A1:2014 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.
4. Applicable to leather products intended for children under 6 years where there is a risk of chewing or sucking.
5. 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
6. 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). However if the primary function is unaffected by the electronic components then compliance will not become mandatory until 2019.
7. Mandatory requirement for personal protective equipment only
8. 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)

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.

Appendix

Appendix 1 – Restricted aromatic amines in REACH Regulation (EC) No 1907/2006 Annex XVII entry number 43

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 only

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

Phthalate	Abbreviation	CAS number	Restrictions
Bis (2-ethylhexyl) phthalate	DEHP	117-81-7	No greater than 0.1% by mass of plasticised material in toys and childcare articles
Dibutyl phthalate	DBP	84-74-2	
Benzyl butyl phthalate	BBP	85-68-7	
Di-isononyl phthalate	DINP	28553-12-0 68515-48-0	No greater than 0.1% 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 3a – Polycyclic aromatic hydrocarbons (German legislation)

Substance	Category 1 mg/kg	Category 2 mg/kg	Category 3 mg/kg
Naphthalene	< 0.2	< 10	< 200
Acenaphthylene	< 0.2	< 10	< 200
Acenaphthene	< 0.2	< 10	< 200
Fluorene	< 0.2	< 10	< 200
Phenanthrene	< 0.2	< 10	< 200
Anthracene	< 0.2	< 10	< 200
Fluoranthene	< 0.2	< 10	< 200
Pyrene	< 0.2	< 10	< 200
Benzo(a)anthracene	< 0.2	< 10	< 200
Chrysene	< 0.2	< 10	< 200
Benzo(b)fluoranthene	< 0.2	< 10	< 200
Benzo(k)fluoranthene	< 0.2	< 10	< 200
Benzo(a)pyrene	< 0.2	< 1	< 20
Indeno(1.2.3-cd)pyrene	< 0.2	< 10	< 200
Dibenz(ah)anthracene	< 0.2	< 10	< 200
Benzo(gh)perylene	< 0.2	< 10	< 200
Total PAH (EPA)	< 0.2	< 10	< 200

Category 1: Material in contact with foodstuff, or materials intended to be put in mouth and toys for children aged < 36 months intended to come into contact with the skin. Requirement for total PAH (EPA): 0.2 mg/kg.

Category 2: Materials not covered by Category 1 with foreseeable contact to skin for longer than 30 seconds (long term skin contact). Limit for total PAH (EPA): 10mg/kg respectively limit for benzo(a)pyrene: 1mg/kg.

Category 3: Materials with foreseeable contact to skin for up to 30 seconds (short term skin contact) or without skin contact. Limit for PAH (EPS): 200mg/kg respectively limit for benzo(a)pyrene: 20mg/kg.

Appendix 3b – REACH Regulation (EC) No 1907/2006 Annex XVII entry number 50 as amended by 1272/2013

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	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 4a – Restricted organotin 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

Appendix 4b – BS EN 71-3:2014 + A1:2014 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)
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 – EN71-3:2013 + A1:2014 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	5,625	1,406	70,000
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	0.2
Cobalt	10.5	2.5	130
Copper	622.5	156	7,700
Lead	13.5	3.4	160
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 footwear components will predominately be classified as category III materials

Appendix

Appendix 6 – Allergenic and carcinogenic disperse dyes

Allergenic disperse dyes

Disperse blue 3
 Disperse blue 7
 Disperse blue 26
 Disperse blue 35
 Disperse blue 102
 Disperse blue 106
 Disperse blue 124
 Disperse brown 1
 Disperse orange 1
 Disperse orange 3
 Disperse orange 37/59/76
 Disperse red 1
 Disperse red 11
 Disperse red 17
 Disperse yellow 1
 Disperse yellow 9
 Disperse yellow 39
 Disperse yellow 49

Allergenic and carcinogenic dyes

Disperse blue 1
 Disperse yellow 3

Carcinogenic dyes

Acid red 26
 Basic red 9
 Basic violet 14
 Direct black 38
 Direct blue 6
 Direct red 28
 Disperse orange 11

Further forbidden dyes

Disperse yellow 23
 Disperse orange 149

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

Flame retardant substances	
Abbreviation	Full chemical name
BDE-047	(2,2',4,4'-tetrabromodiphenyl ether)
BDE-085	(2,2',3,4,4'-pentabromodiphenyl ether)
BDE-099	(2,2',4,4',5-pentabromodiphenyl ether)
BDE-100	(2,2',4,4',6-pentabromodiphenyl ether)
BDE-153	(2,2',4,4',5,5'-hexabromodiphenyl ether)
BDE-154	(2,2',4,4',5,6'-hexabromodiphenyl ether)
BDE-180	(2,2',3,4,4',5,5'-heptabromodiphenyl ether)
BDE-196	(2,2',3,3',4,4',5,6'-octabromodiphenyl ether)
BDE-197	(2,2',3,3',4,4',6,6'-octabromodiphenyl ether)
BDE-203	(2,2',3,4,4',5,5',6-octabromodiphenyl ether)
PBB-003	(4-bromobiphenyl)
PBB-004	(2,2'-dibromobiphenyl)
PBB-018	(2,2',5-tribromobiphenyl)
PBB-077	(3,3',4,4'-tetrabromobiphenyl)
PBB-101	(2,2',4,5,5'-pentabromobiphenyl)
PBB-153	(2,2',4,4',5,5'-hexabromobiphenyl)
PBB-209	(2,2',3,3',4,4',5,5',6,6'-decabromobiphenyl)



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