



SAVE THE DUCK
RESTRICTED SUBSTANCES LIST SPECIFICATION (RSL)
and PHYSICAL-MECHANICAL REQUIREMENTS



SAVE THE DUCK S.p.A.* TECHNICAL SPECIFICATION

INDEX

INTRODUCTION	2
ENGAGEMENT	3
GENERAL REQUIREMENTS	4
TEXTILES	6
METAL	24
PLASTIC AND RUBBER	29
SURFACE AND COATING	36
ADDITIONAL CONSIDERATIONS-SUGGESTIONS	44
MANDATORY PHYSICAL-MECHANICAL REQUIREMENTS	49

Revised version of "RSL" (Restricted Substances List) SPECIFICATION and MANDATORY PHYSICAL-MECHANICAL REQUIREMENTS

REF. APPAREL (including outerwear)

The contents of this report represent our best interpretation from the technical point of view of laws, circulars and directives.

The legislative references outlined in the document are not intended to be exhaustive.

It is responsibility of the manufacturer to ensure that the products comply with all relevant legislation applicable to them.

With reference to legislation that does not impose a limit on the content of substances in clothing for their placing on the market (for example: list of SVHC candidates for authorization under the REACH Regulation), suppliers are required to discontinue the use of these substances and therefore their presence in every part of the articles supplied in a concentration below the limit laid down in the legislation (example: 0.1%).

The document consists of a first part of general requirements and tables that refer to the specific requirements applicable to the following materials:

1. fabrics,
2. metals
3. Plastic-tires
4. surface coatings

The tables include following information:

- the restriction parameter / substance,
- relative CAS number,
- the scope of application
- the most restrictive limit on the basis of current legislation,

* hereinafter Save The Duck

- the test method to be applied in order to verify compliance of products.

The field of application described in the tables derives from our best interpretation of the legislation and information currently available on the substances listed and their uses.

In addition to the listed requirements, we are taking into account, among other things, some of the proposed EU law proposals; here included in the "Additional Considerations - Tips" section, a list of requirements that we suggest to add to those listed in the first part of the document (RSL).

ENGAGEMENT

By accepting Save The Duck Restricted Substances List (RSL) the Supplier commits to comply with Save The Duck Chemical Restrictions. The Supplier is responsible to assure compliance and to inform all their upstream suppliers and partners about its content.

By accepting Save The Duck Restricted Substances List, each Supplier acknowledges that Save The Duck reserves the right to:

- Inspect and test any product and any part of production, 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 and production do not correspond to Save The Duck Chemical Restrictions.

- Hold the Supplier responsible for any damage caused by the ordered product if the product or production do not correspond to Save The Duck Chemical Restrictions.

- Receive Safety Data Sheets (SDS) for all substances and preparations (dyes, colorants, solvents, chemicals, etc.) used in the production of a specific Order.

- Request the Supplier to change substances and preparations (dyes, colorants, solvents, chemicals, etc.) used in the production to comply with Save The Duck Chemical Restrictions.

PHYSICAL – MECHANICAL SPECIFICATION AND INFLAMMABILITY

Purpose

This technical specification includes the physical-mechanical safety requirements and flammability requirements that must be respected for the selling of CLOTHING for children and adults.

GENERAL REQUIREMENTS

Please note that every product (substance, mixture or article) placed/supplied in the EU market is subject to prescription of Regulation (EC) n. 1907/2006 (REACH) and, therefore, shall comply with every applicable requirements of this regulation (including the compliance to every restriction of Annex XVII of REACH).

Please remember therefore to always check the obligations that your company has due to this regulation (registration, information along the supply chain, notification, etc.) in relation to products that are part of your business. In particular, the presence, within articles supplied by the company, of substances of very high concern (SVHC) candidate for authorization would give rise to obligation to communicate information along the supply chain and / or to notification obligation.

Products must comply with all requirements into force in Member States where they are marketed, and with every requirements of REACH.

The SVHC (substances of very high concern) candidates for authorization shall not be used in the manufacture of the supplied articles. Each component of the product shall not contain SVHC candidates for authorization in concentration above 0.1%. Since the list of SVHC candidate for authorization is constantly updated, it is the responsibility of the supplier to ensure that the conditions mentioned above refer to the list of SVHC in force at the time of supply.

List of substances of very high concern:

<http://echa.europa.eu/it/candidate-list-table>

After a two-step regulatory process, SVHCs may be included in the Authorization List (Annex XIV of REACH) and become subject

to authorization. These substances cannot be placed on the market or used after a given date, unless an authorization is granted for their specific use, or the use is exempted from authorization.

These substances shall not be used in the production process, imported or placed on the European market unless supplier is able to provide proof of authorization procedure.

List of substances in the Annex XIV:

<https://echa.europa.eu/it/authorisation-list>

According to provisions of Reg. (EU) No. 528/2012 concerning the use of biocidal products, we point out that the use of biocides should be subject to authorization and the use of certain active substances requires specific labeling.

In the US, all materials must comply with national laws and federal regulations.

Among other State-specific requirements, please note that the law called Proposition 65 is into force in California. Proposition 65 requires businesses to notify Californians about significant amounts of chemicals in the products they purchase, in their homes or workplaces, or that are released into the environment. Chemicals to be notified are those on the list published by the competent authority (this list contains about 950+ substances, known to be carcinogenic or cause reproductive harm).

The substances present in the list of California Proposition 65 shall not be used in the production of the supplied items. Each component of the product shall not contain substances in concentrations that require notification of the presence of this substance (within the meaning of what is specified by the law) to the citizens of California (e.g. through labelling).

List of substances under California Proposition 65:

<https://oehha.ca.gov/proposition-65/proposition-65-list/>

Moreover in California it is entered into force (01 October 2013) the "California's Safer Consumer Products regulations". The DTSC (Department of Toxic Substances Control) has published a list of candidate chemicals. These substances shall not be used in the production of the supplied items (and shall not be present as contaminants above the PQL-Practical Quantification Limit).

For children's products:

The substances identified as "chemicals of high concern" (CHCC), according to Washington "Children's safe product act" and Vermont "Chemical Disclosure Program for Children's Products" shall not be used in the production of the articles supplied. Each component of the product shall not contain CHCC in concentrations above PQL (Practical Quantification Limit).

The substances identified as "chemicals of high concern" (CHCs), according to Maine "Toxic Chemicals in Children's Products" shall not be used in the production of the articles supplied. Each component of the product shall not contain CHCs in concentrations above PQL (Practical Quantification Limit), or 100 ppm if present as contaminant.

In Oregon, according to "Toxic-Free Kids Act" there is a list of high priority chemicals which will include, but not necessarily be limited to, the Washington state 66 Chemicals of high concern to children (CHCC). These substances shall not be present in an amount at or above a "de minimis level".

"De minimis level" means PQL (Practical Quantification Limit) for substances intentionally added, or 100 ppm if present as contaminant.

In Canada, according to Regulation called "CODIFICATION (2012) SOR/2012-285- Prohibition of Certain Toxic Substances Regulations, 2012", substances that are reported in Schedule 1, Part 1, are completely prohibited in manufactured items, unless

incidentally present or used for laboratory research. It is responsibility of stakeholders to ensure the absence of these substances in the manufactured items and production process.

Moreover in Canada, according to Canadian Environmental Protection Act it is prohibited to manufacture, use, offer for sale or import of:

- 1) Perfluoro-octane sulfonate and its salts, and
- 2) Compounds that contain one of the following groups: C8F17SO2, C8F17SO3, C8F17SO2N.



TEXTILES



Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Aromatic amines	4-aminodiphenyl	92-67-1	20 mg/kg	20 mg/kg	EU EN 14362-1 EN 14362-3 China GB/T 17592 GB/T 23344 South Korea KS K 0147 KS K 0734 Japan JIS L 1940 Taiwan CNS 15205-1&2	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entry 43 China -GB 18401-2010 -FZ/T 81014-2008 South Korea -Quality Management and Industrial Products Safety Management Act -Japan Act on Control of Household Products Containing Harmful Substances Turkey Turkish Regulation KKDIK Taiwan CNS 15503
	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				
	p-chloraniline	106-47-8				
	2,4-diaminoanisol	615-05-4				
	4,4'-diaminodiphenylmethane	101-77-9				
	3,3'-dichlorinebenzidine	91-94-1				
	3,3'-dimethoxybenzidine	119-90-4				
	3,3'-dimethylbenzidine	119-93-7				
	3,3'-dimethyl-4,4'-diaminodiphenylmethane	838-88-0				
	p-cresidine	120-71-8				
	4,4'-methylen-bis-(2-chlorineaniline)	101-14-4				
	4,4'-oxydianiline	101-80-4				
	4,4'-thiodianiline	139-65-1				
	o-toluidine	95-53-4				
	2,4-toluenediamine	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					

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Other Aromatic amines	4-chloro-o-toluidinium chloride	3165-93-3	30 mg/kg	30 mg/kg	EU EN 14362-1 EN 14362-3	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entry 72
	2-Naphthylammoniumacetate	553-00-4				
	4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7				
	2,4,5-trimethylaniline hydrochloride	21436-97-5				

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Formaldehyde	Formaldehyde	50-00-0	75 mg/kg ¹ 300 mg/kg ²	16 mg/kg ³ 75 mg/kg ⁴ 300 mg/kg ⁵	EU ISO 14184-1 Japan Japanese law 112 China GB/T 2912.1 South Korea KS K 0611 KS ISO 14184-1 Taiwan CNS 14940	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entry 72 -National EU legislation, such as: Netherland, Austria, Finland, Germany, Norway, Poland wChina -GB 18401-2010 -FZ/T 81014-2008 Japan -Act No.112 of 1973 South Korea -Quality Management and Industrial Products Safety Management Act Taiwan CNS 15290

¹ For products in direct contact with the skin

² For products not in direct contact with the skin

³ For products intended for children under three years

⁴ For products in direct contact with the skin

⁵ For products not in direct contact with the skin

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Organostannic compounds	Tri-substituted (such as Tributyltin-TBT and Triphenyltin-TPT)	-	ND (0.5 mg/kg)	ND (0.5 mg/kg)	ISO/TS 16179 South Korea KS K 0737 Taiwan NIEA T504.30B of EPA	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entry 20
	DBT	-	0.1% by weight of tin	0.1% by weight of tin		Japan -Act No.112 of 1973
	DOT	-	0.1% by weight of tin	0.1% by weight of tin		South Korea -Quality Management and Industrial Products Safety Management Act Turkey Notice Turkish Regulation KKDIK Taiwan CNS 15503 CNS 15290

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Cadmium	Cadmium	7440-43-9	100 mg/kg ⁶	40 mg/kg	CPSC-CH-E1002-08 EU EN 16711-1	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entry 23 USA - National legislation (such as: Washington Children’s Safe Products Act) Turkey Notice Turkish Regulation KKDIK

⁶ Applicable to synthetic textiles

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Lead	Lead	7439-92-1	100 mg/kg	90mg/kg ⁷	CPSC-CH-E1002-08 EU EN 16711-1	<p>Europe</p> <ul style="list-style-type: none"> - National EU legislation (Denmark) - Annex XVII of Reach Regulation (EC) 1907/2006 entry 63 <p>South Korea</p> <ul style="list-style-type: none"> -Quality Management and Industrial Products Safety Management Act <p>USA</p> <ul style="list-style-type: none"> -The Consumer Product Safety Improvement Act (CPSIA), -National legislation (such as: Washington Children’s Safe Products Act) <p>Canada</p> <ul style="list-style-type: none"> Consumer Products Containing Lead Regulations: SOR/2018-83

⁷ 40 mg/kg is the limit for the warning required by Illinois Lead Poisoning Prevention Act

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Extractable Heavy Metals	Mercury	7439-97-6	-	0,02 mg/kg	China GB/T 17593.1	China ⁸ -FZ-T 81014-2008 Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 72
	Chromium	7440-47-3	1,0 mg/kg	1,0 mg/kg		
	Lead	7439-92-1	1,0 mg/kg	0,2 mg/kg		
	Arsenic	7440-38-2	1,0 mg/kg	0,2 mg/kg	GB/T 17593.4	
	Copper	7440-50-8	-	25 mg/kg		
	Cadmium	7440-43-9	1,0 mg/kg	1,0 mg/kg	EU EN 16711-2	
Pentachlorophenol and its salts and esters	Pentachlorophenol	87-86-5	ND (0,5 mg/kg)	ND (0,5 mg/kg)	UNI 11057	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 22, National EU legislation (such as: Germany, Denmark)
Tetrachlorophenols (TeCPs)	2,3,4,5 TeCP	4901-51-3	ND (0,5 mg/kg)	ND (0,5 mg/kg)	LFGB B 82.02.8	-Annex I, Regulation (EC) 2019/1021
	2,3,4,6 TeCP	58-90-2				
	2,3,5,6 TeCP	935-95-5				

⁸ Applicable to infant wear

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Flame Retardants	Tris(aziridinyl)phosphin oxide	545-55-1	ND (10 mg/kg)	ND (10 mg/kg)	GB/T 24279	Europe -Regulation (EC) 2019/1021– POP - Annex XVII of Reach Regulation (EC) 1907/2006 entries 4,7, 8, 45 and 67
	Polybrominatedbiphenyls (PBB)	59536-65-1				
	Tris (2,3 dibromopropyl) phosphate	126-72-7				
	Bis (2,3-dibromopropyl) phosphate	5412-25-9				
	Diphenylether, tetrabromo derivative	-				
	Diphenylether, pentabromo derivative	-				
	Diphenylether, hexabromo derivative	-				
	Diphenylether, heptabromo derivative	-	0,1%	0,1%	ISO 17881 (-1 and -2)	Japan - Act No.112 of 1973
	Diphenylether, octabromo derivative	-				
	Diphenylether, decabromo derivative	-	ND (10 mg/kg)	ND (10 mg/kg)	South Korea -Quality Management and Industrial Products Safety Management Act	
	TCEP (Tris(2-chloroethyl)phosphate)	115-96-8	-	ND (10 mg/kg)		
	Hexabromocyclododecane	25637-99-4, 3194-55-6, 134237-50-6 , 134237-51-7, 134237-52-8	100 mg/kg	100 mg/kg	Turkey Notice Turkish Regulation KKDIK -USA	
	tetrabromobisphenol A	74-94-7	-	0.1%	National Legislations such as Vermont, Maryland, New York, Oregon and Washington	
TDCPP (Tris(1,3-dichloro-2-propyl) phosphate)	13674-87-8	-	0,1%			
Tetra-, penta-, hexa-, hepta- and decaBDE	-	Sum: 500 ppm	Sum: 500 ppm	Canada Canadian Consumer Safety Act ⁹		

⁹ Applicable to Tris (2,3 dibromopropyl) phosphate

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.15%	0.15%	Solvent extraction analysis with GC-MS; ISO 18219	Europe -Regulation (EC) 2019/1021– POP

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Nonylphenol, Nonylphenol ethoxylates	Nonylphenol	-	0,1%	0,01%	Solvent extraction analysis with LC-MS, GC-MS	Europe - Reg. (EC) No 1907/2006 (REACH) entry 46 South Korea Common Safety Standard for children's product Turkey Notice Turkish Regulation KKDIK
	Nonylphenol ethoxylates	-	0.01%	0.01%	ISO 18254-1 Taiwan CNS 15579	Europe - Reg. (EC) No 1907/2006 (REACH) entry 46.a ¹⁰ South Korea Common Safety Standard for children's product Turkey Notice Turkish Regulation KKDIK Taiwan CNS 15290

¹⁰ Applicable to article placed on the market after 3 February 2021 and made of 80 % textile fibres by weight. We, anyway, suggest to start to be compliant with the requirements. Alternatively, till 3 February 2021 you should use the limit of 0.1% according to entry 46 of REACH –Annex XVII.

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Blue Colorant	A mixture of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato) (1-(5-chloro-2-oxidophenylazo)-2-naphtholato) chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromate(1-)'	CAS number not available, EC number 405-665-4	0,1%	0,1%	DIN 54231	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 43
Malachite Green	Malachite green	10309-95-2	0,1%	0,1%	South Korea KS K0736	South Korea Restricted Substance List
	Malachite green phosphotungstomolybdate	61725-50-6				
	Malachite green phosphomolybdate	68083-41-0				
	Malachite green chloride	569-64-2				
	Malachite green oxalate	2437-29-8				
	Malachite green oxalate	18015-76-4				

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Dyes (carcinogenic and allergenic)	Acid Red 26	3761-53-3	ND (Detection Limit)	ND (Detection Limit)	DIN 54231	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry72 -National EU requirements such as Germany
	Basic Red 9	569-61-9				
	Basic Violet 14	632-99-5				
	Direct Black 38	1937-37-7				
	Direct Blue 6	2602-46-2				
	Direct Red 28	573-58-0				
	Disperse Blue 1	2475-45-8				
	Disperse Orange 11	82-28-0				
	Disperse Orange 149	85136-74-9				
	Disperse Yellow 23	6250-23-3				
	Disperse Yellow 3	2832-40-8				
	Disperse Blue 35	12222-75-2				
	Disperse Blue 102	12222-97-8				
	Disperse Blue 106	12223-01-7				
	Disperse Blue 124	61951-51-7				
	Disperse Blue 26	3860-63-7				
	Disperse Blue 3	2475-46-9				
	Disperse Blue 7	3179-90-6				
	Disperse Brown 1	23355-64-8				
	Disperse Orange 1	2581-69-3				
	Disperse Orange 3	730-40-5				
	Disperse Orange 76/59/37	13301-61-6				
	Disperse Red 1	2872-52-8				
	Disperse Red 11	2872-48-2				
	Disperse Red 17	3179-89-3				
	Disperse Yellow 1	119-15-3				
Disperse Yellow 39	12236-29-2					
Disperse Yellow 49	54824-37-2					
Disperse Yellow 9	6373-73-5					
	4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride;C.I. Basic Violet 3 with $\geq 0,1\%$ of Michler's ketone (EC no. 202-027-5)	548-62-9			South Korea KS K0736	South Korea -Quality Management and Industrial Products Safety Management Act

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Asbestos	Crocidolite	12001-28-4	ND	ND	X-ray diffractometer	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 6
	Amosite	12172-73-5				
	Anthophyllite	77536-67-5				
	Actinolite	77536-66-4				
	Tremolite	77536-68-6				
	Chrysotile	12001-29-5 132207-32-0				
Organomercury compounds	Organomercury compounds	-	ND(1 mg/kg)	ND(1 mg/kg)	FAAS	Japan - Act 112 of 1973
Phenylmercury compounds	Phenylmercury acetate	62-38-4	0,01 %	0,01 %	CPSC-CH-E1002-08 EU EN 16711-1	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 62
	Phenylmercury propionate	103-27-5				
	Phenylmercury 2-ethylhexanoate	13302-00-6				
	Phenylmercury octanoate	13864-38-5				
	Phenylmercury neodecanoate	26545-49-3				
pH	pH	-	4,0-7,5 ¹¹ 4,0-9,0 ¹²	4,0-7,5 ¹³ 4,0-9,0 ¹⁴	ISO 3071 GB/T 7573	China -GB18401-2010 -FZ-T 81014-2008 South Korea -Quality Management and Industrial Products Safety Management Act

¹¹ For products in direct contact with the skin

¹² For products not in direct contact with the skin

¹³ For products in direct contact with the skin or other for children under 3 years

¹⁴ For products not in direct contact with the skin

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Dimethylfumarate	Dimethylfumarate	624-49-7	0,1 mg/kg	0,1 mg/kg	ISO/TS 16186 Taiwan CNS 15331	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 61 South Korea -Quality Management and Industrial Products Safety Management Act Taiwan CNS 15503

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Pesticides (and other persistent organic pollutants)	Endosulfan	115-29-7, 959-98-8, 33213-65-9	ND(Detection Limit)	ND(Detection Limit)	US EPA 8081 + US EPA 8141 + US EPA 8151	Europe -Reg 2019/1021 –POP Japan -Act112 of 1973
	DDT	50-29-3				
	Chlordane	57-74-9				
	Hexachlorocyclohexane, including lindane	319-84-6, 319-85-7, 608-73-1, 58-89-9				
	Dieldrin	60-57-1				
	Endrin	72-20-8				
	Heptachlor	76-44-8				
	Hexachlorobenzene	118-74-1				
	Chlordecone	143-50-0				
	Aldrin	309-00-2				
	Mirex	2385-85-5				
	Pentachlorobenzene	608-93-5				
	Polychlorinated Biphenyls (PCB)	1336-36-3 and others				
	Toxaphene	8001-35-2				
	Hexabromobiphenyl	36355-01-8				
	Polychlorinated Naphthalenes	-				
Hexachlorobutadiene	87-68-3					
DTTB	57648-21-2					
Dimethylformamide	DMF	68-12-2	3000 mg/kg (each) ¹⁵	3000 mg/kg (each) ¹⁶	ISO TS 16189	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 72
N,N-dimethylacetamide	DMAC	127-19-5				

¹⁵ Applicable to Polyurethane based materials: Synthetic Fiber (e.g. spandex), Polyurethane Coating, Artificial Leather

¹⁶ Applicable to Polyurethane based materials: Synthetic Fiber (e.g. spandex), Polyurethane Coating, Artificial Leather

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone	NMP	872-50-4			ISO 19070	
Quinoline	Quinoline	91-22-5	50 mg/kg	50 mg/kg	Extraction with methanol or THF, analysis by HPLC-MS/MS or HPLC-DAD	
Chlorinated benzenes and chlorinated toluenes	a,a,a, 4-tetrachlorotoluene; pchlorobenzotrichloride	5216-25-1	1.0 mg / kg	1.0 mg / kg	EN 17137	
	a,a,a-trichlorotoluene; benzotrichloride	98-07-7	1.0 mg / kg	1.0 mg / kg		
	a-chlorotoluene; benzylchloride	100-44-7	1.0 mg / kg	1.0 mg / kg		

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
PAH (Polycyclic Aromatic Hydrocarbons) ¹⁷	Benzo[a]pyrene (BaP)	50-32-8	1 ppm (each substance)	1 ppm (each substance). Sum of all 10 mg/kg	AfPS GS 2014:01 PAK	Europe -Annex XVII of Reach Regulation (EC)1907/2006 entry 50
	Benzo[e]pyrene (BeP)	192-97-2				
	Benzo[a]anthracene (BaA)	56-55-3				
	Chrysen (CHR)	218-01-9				
	Benzo[b]fluoranthene (BbFA))	205-99-2				
	Benzo[j]fluoranthene (BjFA)	205-82-3				
	Benzo[k]fluoranthene (BkFA)	207-08-9				
	Dibenzo[a,h]anthracene (DBAhA)	53-70-3				
	Naphthalin	91-20-3	-		Taiwan CNS 3478	Taiwan CNS 15503
	Acenaphthylen	208-96-8				
	Acenaphthen	83-32-9				
	Fluoren	86-73-7				
	Phenanthren	85-01-8				
	Anthracen	120-12-7				
	Fluoranthen	206-44-0				
	Pyren	129-00-0				
Indeno[1,2,3-cd] pyren	193-39-5					
Benzo[g,h,i]perylene	191-24-2					
Migration of certain elements	Antimony (Sb)	-	-	60 mg/kg	Taiwan CNS 4797-2	Taiwan CNS 15503 CNS 15290
	Arsenic (As)	-	-	25 mg/kg		
	Barium (Ba)	-	-	1000 mg/kg		
	Cadmium (Cd)	-	ND (75 mg/kg)	ND (75 mg/kg)		
	Chromium (Cr)	-	-	60 mg/kg		
	Lead (Pb)	-	-	90 mg/kg		
	Mercury (Hg)	-	-	60 mg/kg		
	Selenium (Se)	-	-	500 mg/kg		
Fluorescent Substances	--	-		Shall not be present	CNS 11820	Taiwan CNS 15503

¹⁷ Applicable to synthetic textile made of synthetic organic polymers such as polyester
Save The Duck S.p.A. July 2020



METAL



Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Nickel	Nickel	7440-02-0	parts intended to come into direct and prolonged contact with the skin <0.5 µg/cm ² /week	parts intended to come into direct and prolonged contact with the skin <0.5 µg/cm ² /week	EN 1811+ EN 12472	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 27 South Korea -Quality Management and Industrial Products Safety Management Act Turkey Notice Turkish Regulation KKDIK

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Cadmium	Cadmium	7440-43-9	100 mg/kg ¹⁸	40 mg/kg	CPSC-CH-E1001-08	<p>Europe</p> <p>USA - National legislation (such as: Washington Children’s Safe Products Act)</p> <p>South Korea -Quality Management and In- dustrial Products Safety Man- agement Act</p> <p>Turkey Notice Turkish Regulation KK- DIK</p>

¹⁸ Strictly suggested on the basis of restriction in Annex XVII of REACH

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Lead	Lead	7439-92-1	100 mg/kg	90 mg/kg ¹⁹	CPSC-CH-E1001-08	<p>Europe</p> <ul style="list-style-type: none"> - Reg. (EC) No 1907/2006 (REACH) entry 63 - National EU legislation (Denmark) <p>USA</p> <ul style="list-style-type: none"> -The Consumer Product Safety Improvement Act (CPSIA) - National legislation (such as: Washington Children’s Safe Products Act) <p>South Korea</p> <ul style="list-style-type: none"> -Quality Management and Industrial Products Safety Management Act <p>Canada</p> <ul style="list-style-type: none"> Consumer Products Containing Lead Regulations: SOR/2018-83

¹⁹ 40 mg/kg is the limit for the warning required by Illinois Lead Poisoning Prevention Act

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Migration of certain elements	Antimony (Sb)	-	-	60 mg/kg	Taiwan CNS 4797-2	Taiwan CNS 15503 CNS 15290
	Arsenic (As)	-	-	25 mg/kg		
	Barium (Ba)	-	-	1000 mg/kg		
	Cadmium (Cd)	-	ND (75 mg/kg)	ND (75 mg/kg)		
	Chromium (Cr)	-	-	60 mg/kg		
	Lead (Pb)	-	-	90 mg/kg		
	Mercury (Hg)	-	-	60 mg/kg		
	Selenium (Se)	-	-	500 mg/kg		
Chromium (VI) released	Chromium (VI) released	-	-	ND (detection method)	CNS 15331	Taiwan CNS 15503



PLASTIC AND RUBBER



Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
PAH (Polycyclic Aromatic Hydrocarbons)	Benzo[a]pyrene (BaP)	50-32-8	1 ppm (each substance)	1 ppm (each substance). Sum of all 10 mg/kg	AfPS GS 2014:01 PAK Taiwan CNS 3478	Europe -Annex XVII of Reach Regulation (EC)1907/2006 entry 50 Taiwan CNS 15503 Turkey Turkish Regulation KKDIK
	Benzo[e]pyrene (BeP)	192-97-2				
	Benzo[a]anthracene (BaA)	56-55-3				
	Chrysen (CHR)	218-01-9				
	Benzo[b]fluoranthene (BbFA))	205-99-2				
	Benzo[j]fluoranthene (BjFA)	205-82-3				
	Benzo[k]fluoranthene (BkFA)	207-08-9				
	Dibenzo[a,h]anthracene (DBAhA)	53-70-3				
	Naphthalin	91-20-3	-			
	Acenaphthylene	208-96-8				
	Acenaphthen	83-32-9				
	Fluoren	86-73-7				
	Phenanthren	85-01-8				
	Anthracen	120-12-7				
	Fluoranthen	206-44-0				
	Pyren	129-00-0				
Indeno[1,2,3-cd] pyren	193-39-5					
Benzo[g,h,i]perylene	191-24-2					
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.15%	0.15%	Solvent extraction analysis with GC-MS; ISO 18219	Europe -Reg. (CE) 2019/1021 – POP
Migration of certain elements	Antimony (Sb)	-	-	60 mg/kg	South Korea ISO 8124-3	South Korea Common Safety Standards for Children Products
	Arsenic (As)	-	-	25 mg/kg		
	Barium (Ba)	-	-	1000 mg/kg		
	Cadmium (Cd)	-	ND (75 mg/kg)	ND (75 mg/kg)		
	Chromium (Cr)	-	-	60 mg/kg	Taiwan CNS 4797-2	Taiwan CNS 15503 CNS 15290
	Lead (Pb)	-	-	90 mg/kg		
	Mercury (Hg)	-	-	60 mg/kg		
	Selenium (Se)	-	-	500 mg/kg		

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Chromium (VI) released	Chromium (VI) released	-	-	ND (detection method)	CNS 15331	Taiwan CNS 15503
Cadmium	Cadmium	7440-43-9	100 mg/kg	40 mg/kg	CPSC-CH-E1002-08 GB/T 30157 ²⁰ EN 1122	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entry 23 - National legislation (such as: Washington Children's Safe Products Act) China -GB 31701-2015 Turkey Notice Turkish Regulation KKDIK

²⁰ Applicable to children apparel (coating and printing)

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Lead	Lead	7439-92-1	100 mg/kg	90 mg/kg ²¹	CPSC-CH-E1002-08 GB/T 30157 ²²	<p>Europe</p> <ul style="list-style-type: none"> - Annex XVII of Reach Regulation (EC)1907/2006 entry 63. - National EU legislation (Denmark) <p>USA</p> <ul style="list-style-type: none"> -The Consumer Product Safety Improvement Act (CPSIA) - National legislation (such as: Washington Children’s Safe Products Act) <p>China</p> <ul style="list-style-type: none"> -GB 31701-2015 <p>Canada</p> <ul style="list-style-type: none"> Consumer Products Containing Lead Regulations: SOR/2018-83 <p>Turkey</p> <ul style="list-style-type: none"> Notice Turkish Regulation KKDIK

²¹ 40 mg/kg is the limit do the warming required by Illinois Lead Posioning Prevention Act

²² Applicable to children apparel (coating and printing)

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Organostannic compounds	Tri-substituted (such as Tributyltin-TBT and Triphenyltin-TPT)	-	ND (0.5 mg/kg)	ND (0.5 mg/kg)	ISO/TS 16179	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entry 20 Japan -Act No.112 of 1973 South Korea Quality Control and Safety Management of Industrial Products Law Turkey Notice Turkish Regulation KKDIK
	DBT	-	0.1% by weight of tin	0.1% by weight of tin 1 mg/kg ²³		
	DOT	-	0.1% by weight of tin	0.1% by weight of tin		
Phenylmercury compounds	Phenylmercury acetate	62-38-4	0.01%	0.01%	CPSC-CH-E1002-08	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 62
	Phenylmercury propionate	103-27-5				
	Phenylmercury 2-ethylhexanoate	13302-00-6				
	Phenylmercury octanoate	13864-38-5				
	Phenylmercury neodecanoate	26545-49-3				

²³ Applicable to products intended for children under 3 years

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries	
Phthalate ²⁴	DEHP, BBP, DBP, DIBP	117-81-7	0.1% as sum	0.1% as sum	CPSC-CH-C1001-09	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entries 51 and 52. -Annex XVII of Reach Regulation (EC) 1907/2006 entry 72. USA -The Consumer Product Safety Improvement Act (CPSIA) - 16 CFR 1307 - National legislation (such as: Washington Children’s Safe	
		85-68-7					
		84-74-2					
		84-69-5					
		1,2-benzenedicarboxylic acid; di-C 6-8-branched					71888-89-6
		Bis(2-methoxyethyl) phthalate					117-82-8
	Diisopentylphthalate	605-50-5	-		China GB/T 20388 ²⁵	South Korea Self-regulatory Safety Confirmation	
	Di-n-pentyl phthalate (DPP)	131-18-0					
	Di-n-hexyl phthalate (DnHP)	84-75-3					
	DNOP, DIDP, DINP	117-84-0					
		26761-40-0 and 68515-49-1					
	diisononyl phthalate (DINP)	28553-12-0 and 68515-48-0					
28553-12-0		-	EN 14389	Safety Standards Textile products for infant			
68515-48-0							
Dicyclohexyl phthalate DCHP	84-61-7	-	Taiwan CNS 15138	China GB 31701-2015			
Dipentyl phthalate (DPP)	131-18-0						
Dihexyl phthalate	84-75-3			Turkey Notice Turkish Regulation KKDIK Taiwan CNS 15503			

²⁴ Applicable to plasticized materials. ‘plasticised material’ means any of the following homogeneous materials: polyvinyl chloride (PVC), polyvinylidene chloride (PVDC), polyvinyl acetate (PVA), polyurethanes, any other polymer (including, inter alia, polymer foams and rubber material) except silicone rubber and natural latex coatings, surface coatings, non-slip coatings, finishes, decals, printed designs, adhesives, sealants, paints and inks.

²⁵ Applicable to children apparel (coating and printing)

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Vinyl chloride monomer ²⁶	Vinyl chloride monomer	75-01-4	5 mg/kg	5 mg/kg	GB/T 4615	China -GB 21550-2008
Soluble lead ²⁷	Soluble lead	7439-92-1	90 mg/kg	90 mg/kg	GB 21550	
Soluble cadmium ²⁸	Soluble cadmium	7440-43-9	75 mg/kg	75 mg/kg	GB 21550	
Volatile matter ²⁹	Volatile matter	-	20 g/m ²	20 g/m ²	GB 21550	

²⁶ Applicable to PVC Artificial Leather

²⁷ Applicable to PVC Artificial Leather

²⁸ Applicable to PVC Artificial Leather

²⁹ Applicable to PVC Artificial Leather



SURFACE COATING³⁰



³⁰ According to 16 CFR 1303.2 (2) "Paint and other similar surface-coating materials means a fluid, semi-fluid, or other material, with or without a suspension of finely divided coloring matter, which changes to a solid film when a thin layer is applied to a metal, wood, stone, paper, leather, cloth, plastic, or other surface. This term does not include printing inks or those materials which actually become a part of the substrate, such as the pigment in a plastic article, or those materials which are actually bonded to the substrate, such as by electroplating or ceramic glazing."

Parameter	Chemical Substance/ Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Cadmium	Cadmium	7440-43-9	100 mg/kg	40 mg/kg	CPSC-CH-E1003-09 GB/T 30157 ³¹	Europe - Annex XVII of Reach Regulation (EC)1907/2006 entry 23 USA - National legislation (such as: Washington Children’s Safe Products Act) China -GB 31701-2015 Turkey Notice Turkish Regulation KKDIK South Korea Self-regulatory Safety Confirmation Safety Standards Textile products for infant

³¹ Applicable to children apparel (coating and printing)

Parameter	Chemical Substance/ Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Lead	Lead	7439-92-1	100 mg/kg	90 mg/kg ³²	CPSC-CH-E1003-09 GB/T 30157 ³³	<p>Europe</p> <ul style="list-style-type: none"> - Annex XVII of Reach Regulation (EC)1907/2006 entry 63. - National EU legislation (Denmark) <p>USA</p> <ul style="list-style-type: none"> -The Consumer Product Safety Improvement Act (CPSIA) - National legislation (such as: Washington Children’s Safe Products Act) <p>China</p> <ul style="list-style-type: none"> -GB 31701-2015 <p>South Korea</p> <p>Self-regulatory Safety Confirmation Safety Standards</p> <p>Textile products for infant</p> <p>Consumer Products Containing Lead Regulations: SOR/2018-83</p>

³² 40 mg/kg is the limit for the warning required by Illinois Lead Poisoning Prevention Act

³³ Applicable to children apparel (coating and printing)

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Organostannic compounds	Tri-substituted (such as Tributyltin-TBT and Triphenyltin-TPT)	-	ND (0.5 mg/kg)	ND (0.5 mg/kg)	ISO/TS 16179	Europe - Annex XVII of Reach Regulation (EC)1907/2006 entry 20
	DBT	-	0.1% by weight of tin	1 mg/kg ³⁴ 0.1% by weight of tin ³⁵	South Korea KS K 0737	Japan -Act 112 of 1973
	DOT	-	0.1% by weight of tin	0.1% by weight of tin		South Korea Self-regulatory Safety Confirmation Safety Standards Textile products for infant e Quality Control and Safety Management of Industrial Products Law Turkey Notice Turkish Regulation KKDİK
Phenylmercury compounds	Phenylmercury acetate	62-38-4	100 mg/kg (weight of mercury)	100 mg/kg (weight of mercury)	CPSC-CH-E1003-09	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 62
	Phenylmercury propionate	103-27-5				
	Phenylmercury 2-ethylhexanoate	13302-00-6				
	Phenylmercury octanoate	13864-38-5				
	Phenylmercury neodecanoate	26545-49-3				

³⁴ Applicable to products intended for children over 3 years³⁵ Applicable to products intended for children over 3 years

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
PFOS ³⁶	PFOS	-	1 µg/m ²	1 µg/m ²	CEN / TS 15968	Europe - Annex XVII of Reach Regulation (EC) 1907/2006 entry 68 -Reg. 2019/1021 – POP - National legislation of EEA (Norway) Turkey ³⁷ Notice Turkish Regulation KKDIK Canada ³⁸ Canadian Environmental Protection Act
PFOA ³⁹	PFOA	335-67-1	1 µg/m ²	1 µg/m ² 25 ppb ⁴⁰		

³⁶ for oil or water proofed articles

³⁷ Applicable to PFOS

³⁸ Applicable to PFOS

³⁹ for oil or water proofed articles

⁴⁰ From July 2020 PFOA or its salts will have a limit of <25 ppb an one or a combination of PFOA-related substances limit of 1000 ppb according point 68 of Annex XVII of REACH

Parameter	Chemical Substance/ Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries											
Phthalate ⁴¹	DEHP, BBP, DBP, DIBP	117-81-7	0.1% as sum	0.1% as sum	CPSC-CH-C1001-09	Europe -Annex XVII of Reach Regulation (EC) 1907/2006 entries 51 and 52. -Annex XVII of Reach Regulation (EC) 1907/2006 entry 72.											
		85-68-7															
		84-74-2															
		84-69-5															
	1,2-benzenedicarboxylic acid; di-C 6-8-branched	71888-89-6					USA -The Consumer Product Safety Improvement Act (CPSIA) - 16 CFR 1307 - National legislation (such as: Washington Children’s Safe Products Act)										
	Bis(2-methoxyethyl) phthalate	117-82-8															
	Diisopentylphthalate	605-50-5															
	Di-n-pentyl phthalate (DPP)	131-18-0															
	Di-n-hexyl phthalate (DnHP)	84-75-3															
	DNOP, DIDP, DINP	117-84-0						-	0.1% as sum	China GB/T 20388 ⁴² EN 14389 Taiwan CNS 15138	South Korea Self-regulatory Safety Confirmation Safety Standards Textile products for infant						
26761-40-0 and 68515- 49-1																	
28553-12-0 and 68515- 48-0																	
diisononyl phthalate (DINP)	28553-12-0	-	0.1% as sum	China GB 31701-2015	China GB 31701-2015												
	68515-48-0																
Dicyclohexyl phthalate DCHP	84-61-7					-	0.1% as sum					Turkey Notice Turkish Regulation KKDIK	Turkey Notice Turkish Regulation KKDIK				
Dipentyl phthalate (DPP)	131-18-0													-	0.1% as sum	Taiwan CNS 15503	Taiwan CNS 15503

⁴¹ Applicable to plasticized materials. ‘plasticised material’ means any of the following homogeneous materials: polyvinyl chloride (PVC), polyvinylidene chloride (PVD-C), polyvinyl acetate (PVA), polyurethanes, any other polymer (including, inter alia, polymer foams and rubber material) except silicone rubber and natural latex coatings, surface coatings, non-slip coatings, finishes, decals, printed designs, adhesives, sealants, paints and inks.

⁴² Applicable to children apparel (coating and printing)

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit – child	Test method	Countries
Benzene	Benzene	71-43-2	5 mg/kg	5 mg/kg	For general VOC screening: GC/MS head-space 45 minutes at 120 degrees C	Europe -Annex XVII of Reach Regulation (EC)1907/2006 entry 72
Dimethylformamide	DMF	68-12-2	3000 mg/kg (each) ⁴³	3000 mg/kg (each) ⁴⁴	HS-GC/MS: ISO TS 16189	
N,N-dimethylacetamide	DMAC	127-19-5				
N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone	NMP	872-50-4			ISO 19070	

⁴³ Applicable to Polyurethane based materials: Synthetic Fiber (e.g. spandex), Polyurethane Coating, Artificial Leather

⁴⁴ Applicable to Polyurethane based materials: Synthetic Fiber (e.g. spandex), Polyurethane Coating, Artificial Leather

Parameter	Chemical Substance/Parameter	CAS Number	Limit – adult	Limit w	Test method	Countries	
Migration of certain elements	Antimony (Sb)	-	-	60 mg/kg	South Korea ISO 8124-3	South Korea Common Safety Standards for Children Products	
	Arsenic (As)	-	-	25 mg/kg			
	Barium (Ba)	-	-	1000 mg/kg			
	Cadmium (Cd)	-	ND (75 mg/kg)	ND (75 mg/kg)			
	Chromium (VI) released	Chromium(VI) released	-	-	ND (detection method)	Taiwan CNS 4797-2	Taiwan CNS 15503 CNS 15290
Polycyclic aromatic hydrocarbon (PAH) ⁴⁵	Benzo[a]pyrene (BaP)	50-32-8	1 ppm (each substance)	1 ppm (each substance). Sum of all 10 mg/kg	AfPS GS 2014:01 PAK	Europe -Annex XVII of Reach Regulation (EC)1907/2006 entry 50	
	Benzo[e]pyrene (BeP)	192-97-2					
	Benzo[a]anthracene (BaA)	56-55-3					
	Chrysen (CHR)	218-01-9					
	Benzo[b]fluoranthene (BbFA))	205-99-2					
	Benzo[j]fluoranthene (BjFA)	205-82-3					
	Benzo[k]fluoranthene (BkFA)	207-08-9					
	Dibenzo[a,h]anthracene (DBAhA)	53-70-3					
	Naphthalin	91-20-3	-		Taiwan CNS 3478	Taiwan CNS 15503	
	Acenaphthylen	208-96-8					
	Acenaphthen	83-32-9					
	Fluoren	86-73-7					
	Phenanthren	85-01-8					
	Anthracen	120-12-7					
	Fluoranthen	206-44-0					
	Pyren	129-00-0					
Indeno[1,2,3-cd] pyren	193-39-5						
Benzo[g,h,i]perylen	191-24-2						

⁴⁵ Applicable to surface coating made of synthetic organic polymers

ADDITIONAL CONSIDERATIONS-SUGGESTIONS

Parameter	Substance	CAS Number	Limit-adult	Limit-child	Test method	Field of application/ Standard
PAH (Polycyclic Aromatic Hydrocarbons)	Naphthalin	91-20-3	Naphthalene: 2 mg/kg, Sum of Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene: 10 mg/kg, others PAH: 0.5 mg/kg each substance, Sum of all 18 PAH: 10 mg/kg	Naphthalene: 2 mg/kg, Sum of Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene: 10 mg/kg, others PAH: 0.5 mg/kg each substance, Sum of all 18 PAH: 10 mg/kg	AfPS GS 2014:01 PAK (Cat. II)	Rubber – Plastic
	Acenaphthylen	208-96-8				
	Acenaphthen	83-32-9				
	Fluoren	86-73-7				
	Phenanthren	85-01-8				
	Anthracen	120-12-7				
	Fluoranthen	206-44-0				
	Pyren	129-00-0				
	Chrysen	218-01-9				
	Benzo[a]anthracen	56-55-3				
	Benzo[b]fluoranthen	205-99-2				
	Benzo[k]fluoranthen	207-08-9				
	Benzo[j]fluoranthen	205-82-3				
	Benzo[a]pyren	50-32-8				
	Benzo[e]pyren	192-97-2				
Indeno[1,2,3-cd] pyren	193-39-5					
Dibenzo[a,h]anthracen	53-70-3					
Benzo[g,h,i]perylene	191-24-2					
Extractable Heavy Metals	Sb – Antimony	7440-36-0	< 30 mg/kg	<30 mg/kg	ISO 16711-1	Textile (UNI/TR 11359)
	As – Arsenic	7440-38-2	< 1,0 mg/kg	<0,2 mg/kg		
	Pb – Lead	7439-92-1	< 1,0 mg/kg	<0,2 mg/kg		
	Cd – Cadmium	7440-43-9	< 0,1 mg/kg	<0,1 mg/kg		
	Cr – Chromium	7440-47-3	< 2,0 mg/kg	<1 mg/kg		
	Cr(VI)	7440-47-3	< 0,5 mg/kg	<0,5 mg/kg		
	Co – Cobalt	7440-48-4	< 4,0 mg/kg	<1 mg/kg		
	Cu – Cupper	7440-50-8	< 50 mg/kg	<25 mg/kg		
	Hg – Mercury	7439-97-6	< 0,02 mg/kg	<0,02 mg/kg		
	Ni – Nickel	7440-02-0	< 4,0 mg/kg	<1 mg/kg		
	Zn – Zinc	7440-66-6	< 50 mg/kg	<50 mg/kg		

Parameter	Substance	CAS Number	Limit-adult	Limit-child	Test method	Field of application/ Standard
Alkylphenols, Alkylphenols ethoxylates	Alkylphenols, Alkylphenols ethoxylates	-	< 100 mg/kg	< 100 mg/kg	Solvent extraction and analysis with LC-MS, GC-MS; ISO 21084	Textiles-Surface Coatings REACH –Annex XVII – restriction proposal
Per-and polyfluorinated alkyl substances PFAS (specific PFCAs (C9-C20) and other fluorinated substances)	PFCAs (C9-C20)	-	25 ppb (sum of C9-C14 PFCAs and their salts); 260 ppb (sum of C9-C14 PFCA related substances)	25 ppb (sum of C9-C14 PFCAs and their salts); 260 ppb (sum of C9-C14 PFCA related substances)	CEN / TS 15968	Europe REACH –Annex XVII – restriction proposal

Parameter	Substance		CAS Number	Limit-adult	Limit-child	Test method	Field of application/ Standard	
Other Pesticides ⁴⁶	2,4,5-T	Endosulfan, β- Endrine Esfenvalerate Fenvalerate	-	ND(Detection Limit)	ND(Detection Limit)	US EPA 8081 + US EPA 8141 + US EPA 8151	Textiles-Leather CEN/TR 16741 UNI/TR 11359	
		2,4-D Azinophosmethyl Azinophosethyl Aldrine Bromophos-ethyl Captafol						Heptachlor Heptachloroepoxide Hexachlorobenzene
		Carbaryl						Hexachlorcyclohexane, α-
	Chlordane Chlordimeform	Hexachlorcyclohexane, β-						
	Chlorfenvinphos Coumaphos Cyfluthrin Cyhalothrin Cypermethrin DEF	Hexachlorcyclohexane, δ- Lindane						
	Deltamethrin	Malathion						
	DDD	MCPA						
	DDE	MCPB						
	DDT	Mecoprop Metamidophos Methoxychlor						
	Diazinon	Mirex Monocrotophos Parathion Parathion-methyl Phosdrin/Mevinphos						
	Dichlorprop Dicrotophos Dieldrin	Propethamphos Profenophos Quinalphos Toxaphene Trifluralin 1582						

⁴⁶ Beside that reported in the table with mandatory chemical requirements for textile and leather

Parameter	Substance	CAS Number	Limit-adult	Limit-child	Test method	Field of application/ Standard
Ortho-phenylphenol, (OPP)	Ortho-phenylphenol, (OPP)	90-43-7	100 mg/kg	50 mg/kg	UNI 11057 (textile) ISO 21084	Textile UNI/TR 11359

Parameter	Substance	CAS Number	Limit-adult	Limit-child	Test method	Field of application/ Standard
PFC	Perfluorooctane sulfonate Perfluorooctanesulfonamide N-Methyl-Perfluorooctanesulfonamide N-Ethyl-Perfluorooctanesulfonamide N-Methyl-Perfluorooctanesulfonamidoethanol N-Ethyl-Perfluorooctanesulfonamidoethanol Perfluorooctane acid Perfluorobutanoic acid Perfluoropentanoic acid Perfluorohexanoic acid Perfluoroheptanoic acid Perfluorononanoic acid Perfluorodecanoic acid Perfluoroundecanoic acid 2H,2H,3H,3H-Perfluoroundecanoic acid Perfluorododecanoic acid Perfluorotridecanoic acid Perfluorotetradecanoic acid Perfluorobutanesulfonate K-salt Perfluorohexanesulfonate Na-salt Perfluoroheptanesulfonate Na-salt Perfluorodecanesulfonate Na-salt 1H,1H,2H,2H-Perfluorooctanesulphonic acid Perfluoro-3,7-dimethyloctanoic acid 7H-Dodecafluoroheptanoic acid 2H,2H-Perfluorodecanoic acid 1H,1H,2H,2H-perfluorooctylacrylate 1H,1H,2H,2H-perfluorodecylacrylate 1H,1H,2H,2H-perfluorododecylacrylate 1H,1H,2H,2H-perfluoro-1-hexanol 1H,1H,2H,2H-perfluoro-1-oktanol 1H,1H,2H,2H-perfluoro-1-decanol 1H,1H,2H,2H-perfluoro-1-dodecanol	-	< 1 µg/m ² (each substance)	< 1 µg/m ² (each substance)	Solvent extraction and analysis by GC-MS/LC-MS	Articles with water repellent treatment



MANDATORY PHYSICAL-MECHANICAL REQUIREMENTS



NOTE:

Test method: for dated references only the edition cited applies; for undated references the latest edition of the referenced documents applies. The content of this document represents our best interpretation from the technical point of view, of laws, Directive and technical standards. Our opinion in this context has no legal value.

PARAMETERS

Drawstring, cords, adjusting tab, etc.
No requirements for adult

Requirements - children	Reference	Country
<p>Daywear and Nightwear</p> <p>From 0 to 14 years (182 cm for boys and 176 cm for girls)</p> <p>Shall be conform to EN 14682:2014</p>	<p>General product safety directive (2001/95/EC)</p> <p>EN 14682:2014</p>	EUROPEAN UNION
<p>Drawstrings on children's upper outerwear</p> <p>Children's upper outerwear in sizes Newborn to 12 must not have drawstrings in the hood and neck area.</p> <p>In accordance with ASTM F1816-97, drawstrings at the waist and bottom of children's upper outerwear in sizes 2T to 16 must:</p> <ul style="list-style-type: none"> -not exceed 75 mm in length outside the drawstring channel when the garment is expanded to its fullest width; -have no toggles, knots, or other attachments at the free ends; and -be bar tacked (i.e., stitched through the drawstring and channel, usually at the back centre of the channel), if the drawstring is one continuous string. 	<p>16 CFR 1120</p> <p>ASTM F1816</p>	U.S.A
<p>Daywear and Nightwear</p> <p>From 0 to 12 years</p> <p>Drawstrings shall not exceed 75 mm and should be bar tacked</p>	ASTM F1816	New York
<p>Children's upper outerwear</p> <p>From 0 up to size 16</p> <p>Drawstrings shall not exceed 75 mm and should be bar tacked</p>	ASTM F1816	Wisconsin
<p>Daywear and Nightwear</p> <p>From 0 to 14 years (160 cm for boys and 155 cm for girls)</p> <p>Shall be conform to GB 31701</p>	<p>GB 31701-2015</p> <p>TABLE 3</p>	CHINA
<p>Daywear and Nightwear</p> <p>From 0 to 14 years</p>	KATS No. 2010-677 KS K 0941 (equivalent to EN 14682)	SOUTH KOREA
<p>Daywear and Nightwear</p> <p>From 0 to 13 years (160 cm)</p>	JIS L4129 (recommended)	JAPAN

Requirements - children	Reference	Country
<p>Drawstrings on children's upper outerwear</p> <p>Children's upper outerwear in sizes Newborn to 12 must not have drawstrings in the hood and neck area.</p> <p>In accordance with ASTM F1816-97, drawstrings at the waist and bottom of children's upper outerwear in sizes 2T to 16 must:</p> <ul style="list-style-type: none"> -not exceed 75 mm in length outside the drawstring channel when the garment is expanded to its fullest width; -have no toggles, knots, or other attachments at the free ends; and -be bar tacked (i.e., stitched through the drawstring and channel, usually at the back centre of the channel), if the drawstring is one continuous string. 	Canada Consumer Product Safety Act	CANADA
<p>General Product Safety</p> <p>The manufacturer is obliged to supply only safe products on the market. Products are considered safe if they comply with the technical regulations in place. In the absence of these technical regulations, national or international standards can be used. In the absence of standards, codes of good manufacturing practice can be considered to establish a product's safety.</p>	<p>TSE EN 14682</p> <p>From 0 to 14 years (182 cm for boys and 176 cm for girls)</p> <p>Shall be conform to EN 14682:2014</p>	TURKEY
<p>Daywear and Nightwear</p> <p>From 0 to 12 years (169 cm for boys and 166 cm for girls)</p> <p>Shall be conform to CNS 15291</p>	CNS 15291:2009	TAIWAN

Parameter	Requirements - adult	Requirements - children	Reference	Country
Burning behaviour of children's nightwear	No requirements	<p>From 6 months (68 cm) up to 14 years (182 cm for boys and 176 cm for girls).</p> <p>No surface flash</p> <p>3rd marker thread not severed in less than 10 seconds for pyjamas and in less than 15 seconds for nightwear</p>	<p>General Product Safety Directive (2001/95/EC)</p> <p>EN 14878 (this is not an harmonized norm, test is recommended)</p>	EUROPEAN UNION
Burning behaviour of children's nightwear	No requirements	<p>Children's sleepwear means any product of wearing apparel intended to be worn <i>primarily</i> for sleeping or activities related to sleep in size 0 through size 14.</p> <p>Infant garments (exempt):</p> <ul style="list-style-type: none"> -Sizes 9 months or younger -One-piece garment does not exceed 64.8 cm (25.75") in length -Two-piece garment has no piece exceeding 40 cm (15.75") in length -Must comply with 16 CFR Part 1610 <p><u>Tight-Fitting Sleepwear (exception):</u></p> <ul style="list-style-type: none"> -Tight-fitting garments (defined by the Standards) are exempt from testing to the children's sleepwear requirements. -Must meet specific maximum dimensions -Must comply with 16 CFR part 1610 -Must meet tight-fitting label and hang tag requirements <p><u>Loose fitting Sleepwear:</u></p> <p>The average char length of the sample does not exceed 17.8 cm (7.0 in) and no individual specimen has a char length of 25.4 cm (10.0 in).</p>	<p>U.S.A</p> <p>Standard FF5-74</p> <p>16 CFR 1615</p> <p>16 CFR 1616</p>	U.S.A

Parameter	Requirements - adult	Requirements - children	Reference	Country
Burning behaviour of night-wear	Labelling	<p>Nightwear</p> <p>From 3 months (having a chest measurements not exceeding 53 cm) up to 13 years (nightdresses chest 91 cm length 122 cm – gowns and similar chest 97 cm sleeve 69 cm).</p> <p>300 mm trip thread not severed in less than 25 seconds and 600 mm trip thread not severed in less than 50 seconds</p>	<p>Nightwear (Safety) (Amendment) Regulations 1987</p> <p>BS 5722:1984</p> <p>BS 5438:1976</p> <p>BS 5651:1978</p>	UK
Children's Sleepwear Regulations	No requirements	<p>Any garment that is likely to be used by children for sleeping or activities related to going to bed is considered to be children's sleepwear, even if it is not labeled as sleepwear.</p> <p>Tight-fitting Children's Sleepwear:</p> <p>More than 7 seconds flame spread time for products with or without a raised fibre surface AND irrespective of base burn</p> <p>Loose-fitting Children's Sleepwear:</p> <p>Average char length for five specimens must not exceed 178 mm</p> <p>Not more than one specimen can have a char length equal to the full length of the specimen (254 mm)</p>	<p>Tight-fitting Children's Sleepwear:</p> <p>CAN/CGSB-4.2 No. 27.5</p> <p>Loose-fitting Children's Sleepwear:</p> <p>Standard FF5-74 of the United States Consumer Product Safety Commission, Standard for the Flammability of Children's Sleepwear: Sizes 7 through 14, dated January 1, 1985</p>	CANADA

Parameter	Requirements - adult	Requirements - children	Reference	Country
Burning behaviour of children's nightwear	No requirements	<p>General Product Safety</p> <p>The manufacturer is obliged to supply only safe products on the market. Products are considered safe if they comply with the technical regulations in place. In the absence of these technical regulations, national or international standards can be used. In the absence of standards, codes of good manufacturing practice can be considered to establish a product's safety.</p>	<p>TSE EN 14878</p> <p>From 6 months (68 cm) up to 14 years (182 cm for boys and 176 cm for girls).</p> <p>No surface flash</p> <p>3rd marker thread not severed in less than 10 seconds for pyjamas and in less than 15 seconds for nightwear</p>	TURKEY
Standard Test Method for Flammability of Apparel Textiles	Clothing, other than nightwear, with a density of less than 88 grams per square metre (excluded swimwear, hosiery, underwear and baby clothes smaller than size 80). Flame spread of 127 mm must be no less than 4 seconds		Enforcement agreements with importers. ASTM D1230	NETHERLANDS
Standard Test Method for Flammability of Apparel Textiles	Adult's clothing. Flame spread of 127 mm must be no less than 4 seconds	<p>Children's clothing in sizes up to and including 170 cm</p> <p>Flame spread must be no less than 7 seconds</p>	<p>Regulation concerning the prohibition against highly flammable textile products - Act 11 June 1976 No. 79 Relating to the Control of Products and Consumer Services</p> <p>ASTM D1230:61</p>	NORWAY

Parameter	Requirements - adult	Requirements - children	Reference	Country
<u>Standard Test Method for Flammability of Apparel Textiles</u>	Time of flame spread more than 5 seconds		KOVFS 1985:5 ASTM D1230:83	SWEDEN
<u>Textiles Fabrics for apparel Detailed procedure to determine the burning behaviour</u>	no surface flash		Ordinance 817.043.1 EN 1103 ISO 6941	SWITZERLAND
Wearing Apparel Flammability	<p>Adults : Daywear and Nightwear</p> <p><u>Plain surface textile fabric</u> Class 1: Burn time is 3.5 seconds or more</p> <p><u>Raised surface textile fabric</u> Class 1: (1) Burn time is greater than 7.0 seconds; or (2) Burn time is 0-7 seconds with no base burns (SFBB). Exhibits rapid surface flash only</p> <p>Class 2: Burn time is 4–7 seconds (inclusive) with base burn (SFBB)</p>	<p>Children: daywear only</p> <p><u>Plain surface textile fabric</u> Class 1: Burn time is 3.5 seconds or more</p> <p><u>Raised surface textile fabric</u> Class 1: (1) Burn time is greater than 7.0 seconds; or (2) Burn time is 0-7 seconds with no base burns (SFBB). Exhibits rapid surface flash only</p> <p>Class 2: Burn time is 4–7 seconds (inclusive) with base burn (SFBB)</p>	<p>Flammable Fabrics Act 16 CFR 1610</p> <p>Specific Exceptions: Hats, provided they do not constitute or form part of a covering for the neck, face, or shoulders when worn by individuals; Gloves, provided they are not more than 14 inches in length and are not affixed to or do not form an integral part of another garment; Plain surface fabrics, weighing 2.6 ounces per square yard or more; All fabrics made entirely from any of the following fibres: acrylic, modacrylic, nylon, olefin, polyester, wool.</p>	U.S.A

Parameter	Requirements - adult	Requirements - children	Reference	Country
Wearing Apparel Flammability	Adult and children's clothing- voluntary standard		JISL1091 Flammability test method of textile products	JAPAN
Wearing Apparel Flammability	No requirements	Children's clothing (0-14 years) Outer layer only. Class 1 (normal flammability)	GB 31701-2015 GB/T 14644 Specific Exceptions: Plain surface fabrics, weighing 90 g/sqm or more; All fabrics made entirely from any of the following fibres: acrylic, modacrylic, nylon, polypropylene, polyester, wool.	CHINA
Textile Flammability Regulations	Adults : Daywear and Nightwear	Clothing (excluding children's sleepwear) >3.5 seconds if the product does not have a raised fibre surface >4 seconds if the product has a raised fibre surface and exhibits ignition or fusion of its base fibres (i.e. base burn)	CAN/CGSB-4.2 No. 27.5	CANADA

PARAMETERS

Small part detachment
No requirements for adult

Requirements - children	Reference	Country
<p>Children's clothing up to 3 years (98 cm) - Durability to washing test for non-graspable components including sequins and for dimension less than 3 mm</p> <p>- 50 N for dimension more than 3 mm but less than/equal to 6 mm - 70 N for dimension more than 6 mm</p> <p>-textile trims are excluded</p>	<p>General Product Safety Directive (2001/95/EC) (this is not an harmonized norm, test is recommended)</p> <p>CEN/TR 16792</p>	<p>EUROPEAN UNION</p>
<p>Children's clothing up to 3 years From 0 up to 6 months</p> <p>Torque 0,23 Nm</p> <p>30 N for dimension less than/equal to 6 mm 50 N for dimension more than 6 mm</p> <p>From 6 up to 36 months</p> <p>Torque 0,34 Nm</p> <p>50 N for dimension less than/equal to 6 mm 70 N for dimension more than 6 mm</p> <p>-textile trims are excluded</p>	<p>UNE 40902</p>	<p>SPAIN</p>

Requirements - children	Reference	Country
<p>Children's clothing up to 3 years - Durability to washing test for non-graspable components including sequins and for dimension less than 3 mm</p> <p>- 50 N for dimension more than 3 mm but less than/equal to 6 mm</p> <p>- 70 N for dimension more than 6 mm</p> <p>-textile trims are not excluded</p>	<p>BS 7907</p>	<p>UK</p>
<p>Children's clothing up to 3 years Form 0 up to 18 months</p> <p>Torque 2 inch pound / 180°</p> <p>Tension 10 lbs. / 10 sec</p> <p>Impact 4.5 feet</p> <p>Flexure 10 lbs.</p> <p>Compression 20 lbs. / 10 sec.</p> <p>Form 18 up to 36 months</p> <p>Torque 3 inch pound / 180°</p> <p>Tension 15 lbs. / 10 sec</p> <p>Impact 3.0 feet</p> <p>Flexure 15 lbs.</p> <p>Compression 25 lbs. / 10 sec.</p> <p>-textile trims are excluded</p>	<p>16 CFR 1501</p> <p><u>Recommended</u></p>	<p>U.S.A.</p>

Requirements - children	Reference	Country
<p>Children's clothing up to 3 years (100 cm).</p> <p>Durability to washing for dimension more less than 3 mm (not recommended)</p> <p>- 50 N for dimension more than 3 mm but less than/equal to 6 mm</p> <p>- 70 N for dimension more than 6 mm</p> <p>-textile trims are not excluded</p>	GB 31701-2015	CHINA
<p>Children's clothing up to 3 years.</p> <p>It is recommended to avoid small parts after tension test and washing</p>	Reccomended	JAPAN
<p>Children's clothing up to 3 years: For grippable components 50 N - For non grippable components washing test. Magnetic Components: If liberated from children product: flux index less than 50 or NO SMALL PART. Children's clothing from 3 years up to 6 years: For grippable components 50 N (if FAIL report a warning) - For non grippable components washing test (if FAIL report a warning).Magnetic Components: If liberated from children product: flux index less than 50 or NO SMALL PART</p>	Special Act on Safety of Children's product	SOUTH KOREA
<p>Children's clothing up to 3 years. It is recommended to avoid small parts after tension test</p>	Canada Consumer Product Safety Act	CANADA

Requirements - children	Reference	Country
<p data-bbox="105 197 389 225">General Product Safety</p> <p data-bbox="105 304 842 528">The manufacturer is obliged to supply only safe products on the market. Products are considered safe if they comply with the technical regulations in place. In the absence of these technical regulations, national or international standards can be used. In the absence of standards, codes of good manufacturing practice can be considered to establish a product's safety.</p>	<p data-bbox="860 197 1099 225">TSE CEN/TR 16792</p> <p data-bbox="860 304 1682 400">Children's clothing up to 3 years - Durability to washing test for non-graspable components including sequins and for dimension less than 3 mm</p> <p data-bbox="860 424 1666 488">- 50 N for dimension more than 3 mm but less than/equal to 6 mm - 70 N for dimension more than 6 mm</p>	<p data-bbox="1711 464 1816 491">TURKEY</p>
<p data-bbox="105 592 584 619">Shall be in accordance with CNS 4797-3</p>	<p data-bbox="860 592 1010 619">CNS 4797-3</p>	<p data-bbox="1711 592 1816 619">TAIWAN</p>

PARAMETERS

Sharp points sharp edge
No requirements for adult

Requirements - children	Reference	Country
Children's clothing (0-14 years): no sharp points no sharp edges.	General Product Safety Directive (2001/95/EC) (this is not an harmonized norm, test is recommended) CEN/TR 16792	EUROPEAN UNION
Children's clothing up to 3 years no Sharp points sharp edges	UNE 40902	SPAIN
Children's clothing up to 8 years Torque 4 inch pound / 180° Tension 15 lbs. / 10 sec Impact 3.0 feet Flexure 15 lbs. Compression 30 lbs. / 10 sec.	16 CFR 1500.48 16 CFR 1500.49	U.S.A.
Children's clothing (0-8 years): no sharp points no sharp edges. Over 3 years if present report a warning.	Special Act on Safety of Children's product	SOUTH KOREA
Children's clothing (0-14 years): no sharp points no sharp edges.	GB 31701-2015 GB 31702	CHINA
No sharp points, safety pins, or broken needles on children's garments.	Canada Consumer Product Safety Act	CANADA
General Product Safety The manufacturer is obliged to supply only safe products on the market. Products are considered safe if they comply with the technical regulations in place. In the absence of these technical regulations, national or international standards can be used. In the absence of standards, codes of good manufacturing practice can be considered to establish a product's safety.	Recommended: no sharp points, safety pins, or broken needles on children's garments.	TURKEY
Shall be in accordance with CNS 4797-3	CNS 4797-3	TAIWAN

Parameter	Requirements - adult	Requirements - children	Reference	Country
Colorfastness	Colorfastness to water Class 3 Colorfastness to perspiration Class 3 Colorfastness to dry rubbing Class 3	FOR CHILDREN UNDER 36 MONTHS Colorfastness to water Class 3-4 Colorfastness to perspiration Class 3-4 Colorfastness to dry rubbing Class 4 Colorfastness to saliva Class 4 FOR CHILDREN OVER 36 MONTHS Colorfastness to water Class 3 Colorfastness to perspiration Class 3 Colorfastness to dry rubbing Class 3	GB 18401	CHINA
	Colorfastness to wet rubbing : No requirements	FOR CHILDREN UNDER 36 MONTHS (100 cm) Colorfastness to wet rubbing Class 3 (class 2-3 for dark color) FOR CHILDREN OVER 36 MONTHS (only items in contact with the skin) Colorfastness to wet rubbing Class 2-3	GB 31701-2015	CHINA

Parameter	Requirements - adult	Requirements - children	Reference	Country
Recommendation for the design and manufacture of children's clothing to promote mechanical safety	No requirements	Children's clothing up to 14 years Conform to the technical report	General Product Safety Directive (2001/95/EC) (this is not an harmonized norm, test is recommended) CEN/TR 16792	EUROPEAN UNION
Code of practice for the design and manufacture of children's clothing to promote mechanical safety		Children's clothing up to 14 years Conform to the code of practice	BS 7907	UK