

# **PRODUCT HEALTH AND SAFETY STANDARD**

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## INTRODUCTION

SASMAT RETAIL S.L. (hereinafter, SASMAT RETAIL), on behalf of its firm PDPAOLA, is committed to providing customers with jewelry and packaging articles embodying the highest standards for human health and safety.

The SASMAT RETAIL product health and safety standard (hereinafter, standard) has been developed in conformity with product health and safety laws in the markets where the company sells its products.

The main objective of this standard is to establish the requirements for chemical substances and safety parameters regulated in jewelry and packaging articles in order to guarantee a high protection of the human health and safety of consumers. It includes requirements related to the characteristics of the product to ensure that it does not present risks to the safety of users, especially children.

## SCOPE OF APPLICATION

This standard compulsorily applies to jewelry and packaging articles intended for any user regardless of their age.

Any SASMAT RETAIL product supplier must comply with the requirements of this standard. In addition, the compliance with this standard does not exempt suppliers from complying with any other regulation applicable to products.

## COMPLIANCE OF THE STANDARD

Suppliers are required to implement a consistent and competent approach to the management of the restricted substances and parameters. Similarly, suppliers are solely responsible for effective application and compliance of the standard for products supplied to SASMAT RETAIL.

SASMAT RETAIL can verify the compliance with the standard of any article provided by its suppliers, at any stage of production or distribution (e.g., through internal control programs of the company). For this purpose, suppliers shall provide adequate access to any documentation required to conduct a conformity control of the provided jewelry and packaging articles, such as, test reports or safety data sheets (SDS) for all materials, substances and preparations used in the production of a SASMAT RETAIL order.

In case of differences between the test reports provided by the supplier and those carried out by SASMAT RETAIL, the results carried out by SASMAT RETAIL shall prevail.

In the event of a non-compliance with the standard, we reserve the right to:

- Reject any order or product.
- Return any order or product delivered.
- Cancel any scheduled order.
- Hold the supplier responsible for any damage caused.

## RELEVANT LEGISLATIVE REQUIREMENTS

SASMAT RETAIL hereby asserts its prerogative to reject products that do not comply with any stipulations set out in the relevant legislation, including its modifications and national transpositions. This may include, but is not limited to:

- General Product Safety Directive (GPSD) 2001/95/EC.
- REACH Regulation (EC) No 1907/2006.
  - Candidate List of Substances of Very High Concern (SVHC) subject to Authorisation, published in accordance with Article 59(10) of the REACH Regulation.
- Safe Drinking Water and Toxic Enforcement Act of 1986, California Proposition 65.
- Biocidal Products Regulation (BPR) (EU) No 528/2012.

## RESTRICTED SUBSTANCES AND PARAMETERS LIST

The restricted substances and parameters list (hereinafter, RSPL) includes those chemicals and parameters legally restricted or prohibited in the markets where SASMAT RETAIL sells its products.

The limits for the content of chemical substances in jewelry articles and packaging products have been established considering the strictest limit, among those present in the legislation of the different trading territories where SASMAT RETAIL operates.

For each substance included in the RSPL, the following information is provided:

- CAS number<sup>1</sup>.
- Common name of the substance.
- The restriction or maximum concentration in the material/components of the final product.
- Age of the user.
- Potential uses & additional information.
- Recommended test method<sup>2</sup>.

For each safety parameter, the requirements and corresponding test methods (where applicable) are provided.

The requirements of this RSPL are mandatory for any supplier in relation to the products supplied to SASMAT RETAIL.

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<sup>1</sup> Chemical Abstracts Service number, an identification number assigned by Chemical Abstracts Service (a division of the American Chemical Society) to every chemical substance included in its database. Also referred to as CAS Registry Number or CASRN.

<sup>2</sup> These test methods are proposed as reference to be employed to check compliance with health and safety requirements.

# 1 RESTRICTED SUBSTANCES LIST IN JEWELRY ARTICLES

## 1.1 METALS AND ITS COMPOUNDS

This group of substances are those metals and metalloids commonly known as heavy metals. Even if there is not a clear definition of heavy metals, usually they are defined as elements with a high density, molecular weight, atomic number, and toxic at low concentrations.

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
Various	Cadmium and its compounds	≤ 14 years	Total content <sup>3</sup> - Any material: No detection <sup>4</sup>	Cadmium and Lead may appear in:  Metallic parts, alloys and metal coatings (as a component or impurity), including welding material.  Plastic materials and coatings due to their compounds may be used as stabilisers.  Paints, prints, glass, ceramics, or synthetic stones, where lead or cadmium compounds could be employed as pigments.	Metal: CPSC-CH-E1001-08.3 Paints and Surface coatings: CPSC-CH-E1003-09.1 Other materials: CPSC-CH-E1002-08.3
		> 14 years	Total content <sup>3</sup> - Any material: No detection <sup>4</sup>		
		≤ 14 years	Extractable content <sup>3</sup> - Any material: No detection <sup>4</sup>		
Various	Lead and its compounds	≤ 14 years	Total content <sup>3</sup> - Any material <sup>4</sup> : 90 ppm	Paints, prints, glass, ceramics, or synthetic stones, where lead or cadmium compounds could be employed as pigments.	Metal: CPSC-CH-E1001-08.3 Paints and Surface coatings: CPSC-CH-E1003-09.1 Other materials: CPSC-CH-E1002-08.3
		> 14 years	Total content <sup>3</sup> - Paints and surface coatings: 90 ppm Other materials: <sup>4</sup> 100 ppm		
		≤ 14 years	Extractable content <sup>3</sup> - Any material: 90 ppm		
Various	Mercury and its compounds	All ages	Total content <sup>3</sup> - Any material: No detection	Mercury and its compounds may be found in metal components, as an impurity, and in natural materials and paints due to the possible use of mercury compounds as preservatives.	EN 16711-1:2016
			Extractable content <sup>3</sup> - Any material: No detection		EN 71-3 2020
Various	Chromium and its compounds	≤ 14 years	Extractable content <sup>3</sup> - Any material: 60 ppm	Chromium and its compounds can be present in metal coatings and metal alloys. Other materials where they can also be present are natural materials (where chromium derived biocides can be used), and paints and plastics where chromium derived pigments can be employed.	EN 16711-1:2016
-	Chromium (VI)	≤ 14 years	Extractable content <sup>3</sup> - Metal, rubber, plastic with metal coating: No detection	Chromium and its compounds can be present in metal coatings and metal alloys. Other materials where they can also be present are natural materials (where chromium derived biocides can be used), and paints and plastics where chromium derived pigments can be employed.	CNS 15331 Annex B
		> 14 years	Metal: 1000 ppm		GB/T 28019

**3** The difference between total and extractable metal content depends on how the sample is analyzed. Thus, a total metal analysis is carried out by digestion of the sample with a strong acid or a mixture of acids (the sample is completely solved), followed by the determination of the content of inorganic ions. In an extractable metal analysis, the sample is treated with an aqueous solution (simulating sweat or saliva), in which the sample is not completely solved, followed by the determination of the content of inorganic ions.

**4** In European Union and United Kingdom, the following materials are exempt from this restriction: crystal glass (as defined in Annex I of Council Directive 69/493/EEC), internal components of watch timepieces inaccessible to consumers, non-synthetic or reconstructed precious and semiprecious stones (CN code 7103 as established by Regulation (EEC) No 2658/87), unless they have been treated with Lead or its compounds or mixtures containing these substances and enamels. In USA and Israel, the following materials are exempt from this restriction, if they have neither been treated nor adulterated with the addition of materials that could result in the addition of Lead into the final article: precious gemstones (diamond, ruby, sapphire, emerald), semiprecious gemstones and other minerals (excluding any mineral that is based on Lead or Lead compounds including, but not limited to, the following: aragonite, bayldonite, boleite, cerussite, crocoite, galena, ekanite, linarite, mimetite, phosgenite, vanadinite, and wulfenite), natural or cultured pearls, wood, paper, printing inks, textiles (excluding after-treatment applications), other plant-derived and animal-derived materials and metals, such as any stainless steel or surgical steel, Gold (at least 10 karat), Silver (at least 925/1000), Platinum, Palladium, Rhodium, Osmium, Iridium, Ruthenium and Titanium.

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
Various	Nickel and its compounds	All ages	Nickel Release <sup>5</sup> - Metal <sup>6</sup> : No detection in any post assemblies which are inserted into pierced ears and other pierced parts of the human body and 0.5 µg/ cm <sup>2</sup> /week for other articles intended to come into direct and prolonged contact with the skin.	Nickel is widely used as a strengthening, brightening and antioxidizing agent and, therefore, can be found mainly in metallic parts.	EN 1811:2011+A1 2015 and EN 12472:202
Various	Arsenic and its compounds	≤ 14 years	Total content <sup>3</sup> - Any material: 25 ppm	Antimony, Arsenic, Barium and Selenium and derivative compounds can be found in metal parts and materials in which pigments containing these elements can be employed (e.g., paints, plastics). Antimony compounds can be also employed as polymerization catalysts (e.g., polyester) and Arsenic compounds as preservatives of natural materials (e.g., wood).	EN 16711-1:2016
		> 14 years	Total content <sup>3</sup> - Metal: 1000 ppm		EN 71-3 2020
Various	Antimony and its compounds	≤ 14 years	Extractable content <sup>3</sup> - Any material: 25 ppm		EN 16711-1:2016
		≤ 14 years	Extractable content <sup>3</sup> - Any material: 60 ppm		EN 71-3 2020
Various	Barium and its compounds	≤ 14 years	Extractable content <sup>3</sup> - Any material: 1000 ppm		EN 71-3 2020
Various	Selenium and its compounds	≤ 14 years	Extractable content <sup>3</sup> - Any material: 500 ppm	EN 71-3 2020	

## 1.2 PHTHALATES

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
28553-12-0	Di-isononyl phthalate (DINP)	≤ 14 years	Polymeric materials (e.g., adhesives, plastics, etc.): 1000 ppm for the sum of DEHP, DBP, BBP, DIBP, DINP, DIDP and DNOP	Phthalates are a family of synthetic compounds mainly used as plasticizers, that is, they are added to polymers to increase the flexibility and durability of plastics (including adhesives and resins). They can be released from the plastic material because they are blended with the polymer without chemical bonding between them. Phthalates can be also used as a demolding agent for plastics.	CPSC-CH-C1001-09.4
26761-40-0	Di-isodecyl phthalate (DIDP)				
117-84-0	Di-n-octyl phthalate (DNOP)				
117-81-7	Bis (2-ethylhexyl) phthalate (DEHP)	> 14 years			
84-74-2	Dibutyl phthalate (DBP)				
85-68-7	Benzyl butyl phthalate (BBP)				
84-69-5	Diisobutyl phthalate (DIBP)				

<sup>5</sup> Release Nickel analysis involves treating of a metallic surface (sample), with an acid artificial sweat solution during 7 days, followed by determination of the concentration of nickel ions by ICP-MS analysis. Previously to this treatment, the sample is subjected to a rapid test to see if it presents Nickel in the outer surface coating, called Ni spot. If there is no Nickel in the outer coating, the sample is first subjected to a corrosion process and then to an abrasion process that simulates wear.

<sup>6</sup> In Israel and Rhode Island, precious metals such as: Gold (at least 9 karat), sterling Silver (at least 925/1000), Platinum, Palladium, Rhodium, Osmium, Iridium, Ruthenium and Titanium; and stainless or surgical steel grades 304, 316 and 430, are exempted to comply with these requirements.

### 1.3 SHORT CHAIN CHLORINATED PARAFFINS (SCCPs)

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
85535-84-8	Short Chain Chlorinated Paraffins	All ages	Any material: No detection	Short chain chlorinated paraffins (SCCPs) are a complex mixture of substances, primarily used as lubricants and coolants in metal cutting and metal forming operations. Other SCCPs uses are as a flame retardant and plasticizer in the following materials: plastics, rubber, adhesives, sealants, paints and lacquers, coatings.	ISO 18219 2015

### 1.4 ORGANOTIN COMPOUNDS

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
Various	Dibutyltin compounds (DBT)	All ages	Any material: 1000 ppm	Organotin compounds or organostannic compounds are chemical substances composed of tin and organic substituents. They are often used as thermal stabilisers for plastics and catalysts in polymer synthesis (such as, PVC, polyurethane, rubber, adhesives, prints, etc.). They can also be employed as preservatives of natural materials.	ISO 22744-1:2020 and ISO 22744-2:2020
Various	Tributyltin compounds (TBT)	All ages	Any material: No detection		
Various	Other trisubstituted organotin compounds	All ages	Any material 1000 ppm		

### 1.5 POLYCYCLIC AROMATIC HYDROCARBONS (PAHS)

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
50-32-8	Benzo[a]pyrene	All ages	Polymeric materials (e.g., adhesives, plastics, etc.): 1 ppm for Benzo[a]pyrene, benzo[e]pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene (for each one of them) 1 ppm for the sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, indeno[1,2,3-cd]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, dibenzo[a,h]anthracene, benzo[g,h,i]perylene	Polycyclic Aromatic Hydrocarbons (PAHs) are a family of compounds composed of fused aromatic carbons rings. PAHs are natural compounds in many fossil fuels and a common residue from incomplete combustion of such fuels. They are not intentionally added but they can be present in polymeric parts of products because of: PAHs contaminated softening oils in rubber and flexible (soft) plastics. PAHs contaminated carbon black as a black pigment in rubber, plastics, and paints.	AfPS GS 2019
192-97-2	Benzo[e]pyrene				
56-55-3	Benzo[a]anthracene				
218-01-9	Chrysene				
205-99-2	Benzo[b]fluoranthene				
205-82-3	Benzo[j]fluoranthene				
207-08-9	Benzo[k]fluoranthene				
53-70-3	Dibenzo[a,h]anthracene				
91-20-3	Naphthalene				
208-96-8	Acenaphthylene				
83-32-9	Acenaphthene				
86-73-7	Fluorene				
85-01-8	Phenanthrene				
120-12-7	Anthracene				
206-44-0	Fluoranthene				
129-00-0	Pyrene				
191-24-2	Benzo[g,h,i]perylene				
193-39-5	Indeno[1,2,3-cd]pyrene				

## 2 RESTRICTED SUBSTANCES LIST IN JEWELRY ARTICLES

Parameters	Requirements	Test methods
Magnets	The use of magnets in children's jewellery is prohibited	-
Sharp points and edges	Prohibited in children's jewellery <8 years <sup>7</sup>	16 CFR 1500.48 and 16 CFR 1500.49
Breakaway Features and Releases	Children's jewelry intended to be attached around the neck shall release, either by designed breakaway feature, attachment design or physical properties of the material, when subjected to 15 lb of tension in accordance with the breakaway tension test. No hazardous sharp points or edges shall be observed during the breakaway tension test if the children's jewelry < 8 years <sup>8</sup>	Section 13.1 of ASTM F2923-14

## 3 OTHER REQUIREMENTS

In addition to the restrictions set out in the RSPL of this standard, another requirement is the following:

Body piercing jewelry shall be made of one or more of the following materials:

- (a) Surgical implant stainless steel.
- (b) Surgical implant grade of titanium.
- (c) Niobium (Nb).
- (d) Solid 14 karat or higher white or yellow nickel-free gold.
- (e) Solid platinum.
- (f) A dense low-porosity plastic, including, but not limited to, Tygon or polytetrafluoroethylene (PTFE), if the plastic contains no intentionally added Lead.

<sup>7</sup> If the point has a diameter greater than 1.02 mm shall not be considered a sharp point, and if the point has a diameter less than 1.02 mm, the length of the point shall not exceed 0.5 mm. Any functional sharp point on children's jewelry is exempt.

<sup>8</sup> Looped children's jewelry which by reason of construction do not fit around the test fixture, having a circumference less than 9.4 in. shall not be subject to the requirements.



## 4 RESTRICTED SUBSTANCES LIST IN PACKAGING<sup>9</sup>

### 4.1 ALKYPHENOLS (APS), ALKYLPHENOL ETHOXYLATES (APEOS) INCLUDING ALL ISOMERS

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
Various	Nonylphenol (NP), mixed isomers	All ages	Total: 100 ppm	APEOS are used as surfactants in the production of plastics, elastomers, paper, and textiles. These chemicals can be found in many processes involving foaming, emulsification, solubilization, or dispersion. APEOs can be used in paper pulping, lubrication oils, and plastic polymer stabilisation.	Textiles and Leather: EN ISO 21084:2019 with determination of LC/MS or LC/MS/MS
Various	Octylphenol (OP), mixed isomers				Polymers and all other materials: 1 g sample/20 mL THF, sonication for 60 minutes at 70°C, analysis according to EN ISO 21084:2019
Various	Nonylphenol ethoxylates (NPEOs)	All ages	Total: 100 ppm	APs are used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilise polymers.  Biodegradation of APEOs into APs is the main source of APs in the environment.	All materials except Leather: EN ISO 18254-1:2016 with determination of APEO using LC/MS or LC/MS/MS
Various	Octylphenol ethoxylates (OPEOs)				Leather: Sample prep and analysis using EN ISO 18218-1:2015 with quantification according to EN ISO 18254-1:2016

<sup>9</sup> The section “Restricted substances list in packaging” has been adopted from the “Packaging Restricted Substances List” document with the consent of the [Affirm Group](#).

## 4.2 AZO-AMINES AND ARYLAMINE SALTS

CAS N°	Substances	Users	Material / Limits	Potential uses & additional information	Test methods
92-67-1	4-Aminobiphenyl				
92-87-5	Benzidine				
95-69-2	4-Chloro-o-toluidine				
91-59-8	2-Naphthylamine				
97-56-3	o-Aminoazotoluene				
99-55-8	2-Amino-4-nitrotoluene				
106-47-8	p-Chloraniline				
615-05-4	2,4-Diaminoanisole				
101-77-9	4,4'-Diaminodiphenylmethane				
91-94-1	3,3'-Dichlorobenzidine				
119-90-4	3,3'-Dimethoxybenzidine				
119-93-7	3,3'-Dimethylbenzidine				
838-88-0	3,3'-dimethyl-4,4'-Diaminodiphenylmethane			Azo dyes and pigments are colorants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds.	All materials except leather: EN ISO 14362-1:2017 Leather: EN ISO 17234-1:2020
120-71-8	p-Cresidine			Thousands of azo dyes exist, but only those which degrade to form the listed cleavable amines are restricted.	p-Aminoazobenzene: All materials except leather: EN ISO 14362-3:2017 Leather: EN ISO 17234-2:2011
101-14-4	4,4'-Methylen-bis (2-chloraniline)	All ages	20 ppm each	Azo dyes that release these amines are regulated and should no longer be used for dyeing textiles.	
101-80-4	4,4'-Oxydianiline				
139-65-1	4,4'-Thiodianiline				
95-53-4	o-Toluidine				
95-80-7	2,4-Toluediamine				
137-17-7	2,4,5-Trimethylaniline				
95-68-1	2,4 Xylidine				
87-62-7	2,6 Xylidine				
90-04-0	2-Methoxyaniline (= o-Anisidine)				
60-09-3	p-Aminoazobenzene				
3165-93-3	4-Chloro-o-toluidinium chloride				
553-00-4	2-Naphthylammoniumacetate				
39156-41-7	4-Methoxy-m-phenylene diammonium sulphate				
21436-97-5	2,4,5-Trimethylaniline hydrochloride				

### 4.3 BISPHENOLS

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
80-05-7	4-Aminobiphenyl	All ages	1 ppm Limit applicable to receipt paper; however, see Potential Uses & Additional Information	BPA may be used in the production of epoxy resins, polycarbonate plastics, flame retardants, and PVC. BPS may be used as a substitute for BPA and can be found along with BPF in polyamide dye-fixing agents and sulfone- and phenol based leather tanning agents.	All materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60°C, analysis with LC/MS
80-09-1	Benzidine				
77-40-7	4-Chloro-o-toluidine			BPA and BPS can be found in recycled polymeric and paper materials due to polycarbonate plastic and thermal receipt paper made with bisphenols entering waste streams.	
620-92-8	2-Naphthylamine	All ages	To prepare for forthcoming restrictions, safer alternatives should be substituted for BPA and other listed bisphenols in all applicable materials	BPS was added to the REACH SVHC list and may need to be notified to ECHA in leather goods if found above 0.1%. Additional restrictions on the entire class of bisphenols are forthcoming, with a new restriction proposal pending in the European Union.	
1478-61-1	o-Aminoazotoluene				

### 4.4 BUTYLATED HYDROXYTOLUENE (BHT)

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
128-37-0	Dibutylhydroxytoluene (BHT)	All ages	25 ppm	Used as an additive in plastics as an antioxidant to prevent aging. Can cause phenolic yellowing of textiles.	All materials: ASTM D4275:2017

### 4.5 DIMETHYLFUMARATE

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
624-49-7	9-7 Dimethylfumarate (DMFu)	All ages	0.1 ppm	DMFu is an anti-mold agent used in sachets in packaging to prevent the buildup of mold, especially during shipping.	All materials: ISO 16186:2021

## 4.6 FORMALDEHYDE

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
50-00-0	Formaldehyde	All ages	150 ppm	<p>Formaldehyde can be found in polymeric resins, binders, and fixing agents for dyes and pigments, including those with fluorescent effects. It is also used as a catalyst in certain printing, adhesives, and heat transfers. Formaldehyde can be used in antimicrobial applications for odor control.</p> <p>Formaldehyde found in packaging can off-gas directly onto product.</p>	<p>Wood: EN 717-3:1996</p> <p>Paper: DIN EN 645:1994 &amp; EN 1541:2001</p> <p>Textiles, Finishings, Dyes, Inks &amp; Coatings: JIS L 1041-2011 A (Japan Law 112) or EN ISO 14184-1:2011</p> <p>Leather: EN ISO 17226-2:2019 with EN ISO 17226-1:2021 confirmation method in case of interferences.</p> <p>Alternatively, EN ISO 17226-1:2021 can be used on its own.</p>

## 4.7 HEAVY METALS (TOTAL CONTENT)

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
7440-43-9	Cadmium (Cd)			Cadmium compounds are used as pigments (especially in red, orange, yellow and green) and in paints. It can also be used as a stabiliser for PVC	<p>All materials: Total heavy metals (Cd, Cr, Pb &amp; Hg): DIN EN 16711-1: 2016. If the total of four heavy metals exceeds 100 ppm and Cr contributes to the sum, test for Cr VI.</p> <p>This test method detects metal elements (Cd, Cr, Hg, Pb). When the final value &gt;100 ppm and Cr contributes to the sum, the Cr VI method described below should be used to exclude the presence of Cr VI.</p>
7439-92-1	Lead (Pb)			May be associated with plastics, paints, inks, pigments, and surface coatings.	
7439-97-6	Mercury (Hg)			Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints.	
		All ages	Total: 100 ppm		<p>Metal: IEC 62321-7-1:2015 The testing laboratory will convert the test result into ppm.</p> <p>Natural leather and natural materials: EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation in case the extract causes interference.</p> <p>Alternatively, EN ISO 17075-2:2017 may be used on its own.</p> <p>All other materials: IEC 62321-7-2:2015</p>
18540-29-9	Chromium (VI)			Though typically associated with leather tanning, Chromium VI also may be used in pigments, chrome plating of metals, and wood preservatives.	

## 4.8 ORGANIC COMPOUNDS

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
Various	Dibutyltin (DBT)				
Various	Diocetyl tin (DOT)				
Various	Monobutyltin (MBT)			Class of chemicals combining tin and organics such as butyl and phenyl groups.	
Various	Tricyclohexyltin (TCyHT)	All ages	1 ppm each	Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterials), catalysts in plastic and glue production, and heat stabilisers in plastics/rubber.	All materials: CEN ISO/TS 16179:2012 or EN ISO 22744-1:2020
Various	Trimethyltin (TMT)				
Various	Triocetyl tin (TOT)			In textiles and apparel packaging, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.	
Various	Tripropyltin (TPT)				
Various	Tributyltin (TBT)	All ages	0.5 ppm each		
Various	Triphenyltin (TPhT)				
Various					

#### 4.9 PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
Various	All PFAS as measured by total organic fluorine	All ages	100 ppm by 2025 50 ppm by 2027		EN 14582:2016 or ASTM D7359:2018
Various	Perfluorooctane Sulfonate (PFOS) and related substances	All ages	1 µg/m² total		
Various	Perfluorooctanoic Acid (PFOA) and its salts	All ages	25 ppb total	Regulations around the world ban the use of PFAS in apparel, footwear, and packaging with partial or full exemptions for personal protective equipment and outdoor apparel for severe wet conditions.	All materials: EN ISO 23702-1 or EN 17681-1:2022 & EN 17681-2:2022
Various	PFOA-related substances	All ages	1000 ppb total		
Various	Perfluorohexane-1-sulphonic acid (PFHxS) and its salts	All ages	25 ppb total	PFAS may be used in commercial water-, oil-, and stain-repellent agents as well as in breathable membranes that remove moisture, e.g., PTFE.	
Various	PFHxS-related substances	All ages	1000 ppb total		
Various	C9-C14 Perfluorocarboxylic acids (PFCAs) and their salts	All ages	25 ppb total		
Various	C9-C14 PFCA-related substances	All ages	260 ppb total		
Various					

#### 4.10 PHTHALATES

CAS N°	Substances	Users	Material/Limits	Potential uses & additional information	Test methods
28553-12-0	Di-Iso-nonylphthalate (DINP)				
117-84-0	Di-n-octylphthalate (DNOP)				
117-81-7	Di(2-ethylhexyl)-phthalate (DEHP)				
26761-40-0	Diisodecylphthalate (DIDP)				
85-68-7	Butylbenzylphthalate (BBP)				
84-74-2	2Dibutylphthalate (DBP)				
84-69-5	Diisobutylphthalate (DIBP)				
84-75-3	Di-n-hexylphthalate (DnHP)				
84-66-2	Diethylphthalate (DEP)				
131-11-3	Dimethylphthalate (DMP)				
131-18-0	Di-n-pentyl phthalate (DPENP)				
84-61-7	Dicyclohexyl phthalate (DCHP)				
71888-89-6	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	All ages	500 ppm each Total: 1000 ppm	<p>Esters of ortho-phthalic acid (Phthalates) are a class of organic compounds commonly added to plastics to increase flexibility. They are sometimes used to facilitate the moulding of plastic by decreasing its melting temperature.</p> <p>Phthalates can be found in:</p> <ul style="list-style-type: none"> <li>• Flexible plastic packaging</li> <li>• Components (e.g., PVC)</li> <li>• Plastisol print pastes <ul style="list-style-type: none"> <li>• Adhesives</li> <li>• Plastic sleeves</li> </ul> </li> <li>• Polymeric coatings</li> </ul>	All materials: CPSC-CH-C1001-09.4, analysis by GC/MS
605-50-5	Bis(2-methoxyethyl) phthalate				
131-16-8	Diisopentyl phthalate (DIPP)				
27554-26-3	Diisooctyl phthalate (DIOP)				
68515-50-4	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear				
71850-09-4	Diisohexyl phthalate (DIHxP)				
68515-42-4	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)				
84777-06-0	1,2-Benzenedicarboxylic acid Di-pentyl ester, branched and linear				
68648-93-1	1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate; 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters; 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters				
68515-51-5	1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters				
776297-69-9	n-Pentyl-isopentylphthalate (nPIPP)				