



Below table contains all analytical methods for the hazardous substances listed in the CADS-RSL.

If applicable for the listed substances international and national standard procedures are used. Harmonized CADS-methods are used for all substances without a standardized procedure. The CADS-methods are published in separate documents and are available for download on the CADS homepage.

Any deviation from the standard method has to be listed in the test report.

**red marked, changes to the previous version**



Parameter	Material	Method	Annotation
Preparation of test samples	Entire sample	General Information	Visually identical materials from different specimens can be assembled to obtain the minimum sample amount for the required tests.
			Composite material has to be tested as one material.
	leather, coated leather	ISO 4044:2017	Sample preparation is performed according to Chapter 6.3 Cutting. To avoid deviations in results, instead of grinding, raw materials are cut, too.
Leather Terminology	leather, coated leather	EN 15987:2015	-
Forbidden aromatic amines	natural textiles, materials from cellulose	EN ISO 14362-1:2017 EN ISO 14362-3:2017	Two tests must be carried out for blended fabrics or fabrics of unknown composition. A test with direct reduction and a test with extraction of the fiber with subsequent reduction.
	synthetic textiles	EN ISO 14362-1:2017 EN ISO 14362-3:2017	
	blended fabric (mixture of natural and synthetic fibres)	EN ISO 14362-1:2017 EN ISO 14362-3:2017	
	leather, leather fibre, coated leather	prEN ISO 17234-1:2023 EN ISO 17234-2:2011	-
Biozides			
Dimethylfumarat	all materials	EN ISO 16186:2021 textile: EN 17130:2019	-
2-(Thiocyanomethylthio)-benzothiazole	leather, leather fibre, coated leather	EN ISO 13365-1:2020	-
4-Chloro-3-methylphenol			
2-Octylisothiazol-3(2H)-one			
2-Phenylphenol			
2-Phenylphenol	textiles, materials from cellulose	According to EN ISO 13365-1:2020 textile: prEN 17134-1:2023	EN ISO 13365-1:2020 is a leather standard. Each laboratory has to validate the method for every type of material before using the method.
Triclosan	leather, leather fibre, coated leather, textiles, materials from cellulose	According to: EN ISO 13365-1:2020 textile: prEN 17134-1:2023	Triclosan is not part of EN ISO 13365-1:2020. Each laboratory has to validate the method for every type of material before using the method.
Chlorinated phenols	leather, leather fibre, coated leather, textiles, materials from cellulose, foams	ISO 17070:2015 or prEN 17134-2:2023	In case of positive findings of MCP and DCP by using prEN 17134-2:2023, the verification step described at Annex C is mandatory. The values obtained with the verification for MCP and DCP must be given in the test report.



Parameter	Material	Method	Annotation
<b>Dyes</b>			
allergenic	synthetic textiles	DIN 54231:2022	<b>Englisch version available</b>
carcinogenic			
others			
<b>Heavy metals</b>			
Chromium VI, soluble after ageing	leather, leather fibre, coated leather	EN ISO 17075-1:2017 EN ISO 17075-2:2017 EN ISO 10195:2021	-
Chromium VI, soluble	textiles (nature, coated, syntetic)	EN 16711-2:2016 EN ISO 17075-1:2017 EN ISO 17075-2:2017	Determination of the Cr content according to EN 16711-2:2016. If the Cr value is >1 mg/kg, the CrVI content according to EN ISO 17075-1:2017 or EN ISO 17075-2:2017 has to be determined.
Cadmium + Lead (total amount)	coated leather	EN ISO 17072-2:2022	Microwave digestion of samples; total dissolution has to be checked. In case of incomplete digestion of the sample different digestion solutions have to be used.
	plastics, metal parts, foams	DIN EN 16711-1:2016	
	coated textiles	DIN EN 16711-1:2016	
Nickle release	metal parts with skin contact	<del>pr</del> EN 1811:2023	Screening of metal parts following CEN/TR 12471:2022 alternative DIN 13093:2017 might be used as an indication for exceedance of the limit. Materials with a positive result according to CEN/TR 12471:2022 or DIN 13093:2017 have to be checked with prEN 1811:2021 for non-coated metal parts and EN 12472:2020 plus <b>EN 1811:2023</b> for coated metal parts.
	coated metal parts with skin contact	EN 12472:2020	
Cadmium, soluble	leather, leather fibre, coated leather	EN ISO 17072-1:2019	-
Nickle, soluble			
Cobalt, soluble	textiles, meterials from cellulose	EN 16711-02:2015	-
Lead, soluble			
Antimony, soluble			
Mercury, soluble			
Chromium, soluble			

Parameter	Material	Method	Annotation
<b>Tinorganic compounds</b>	coated leather, leather fibre, synthetic textiles, plastics, foams, adhesives	<b>prEN ISO 16179:2023;</b> <b>DIN SPEC 94179</b> EN ISO 22744-1:2020	-
<b>Other hazardous substances</b>			
short chained chlorinated paraffines (C10-C13)	leather, leather fibres, coated leathers, plastics, foams	EN ISO 18219-1:2019	
medium chained chlorinated paraffines (C14-C17)		EN ISO 18219-2:2019 EN ISO 22818:2021	
2-Mercaptobenzothiazole (2-MBT)	Latex, rubber	According to: EN ISO 13365-1:2020	EN ISO 13365-1:2020 is a leather standard. Each laboratory has to validate the method for every type of material before using the method. Deviation: Different as in EN ISO 13365-1:2020 described the ultrasonic extraction has to be done at 60°C instead of room temperature.
Formaldehyde	leather, coated leather, leather fibre	EN ISO 17226-1:2021	-
	synthetic textiles, natural textiles	EN ISO 14184-01:2011 <b>prEN ISO 14184-3:2023</b>	
	wood	EN 717-3:1996	
1-Methyl-2-pyrrolidone	leather, coated leather, leather fibre, adhesives	EN ISO 19070:2016	-
Dimethylformamide	coated leather, coated textiles	EN ISO 16189:2021 textil: EN 17131:2019	-
<b>Dimethylacetamide</b>	<b>coated leather, coated textiles</b>	<b>EN ISO 16189:2021</b> <b>textil: EN 17131:2019</b>	<b>Dimethylacetamide is not part of the scope of EN ISO 16189:2021 and EN 17131:20192. Each laboratory has to validate the method for every type of material before using the method.</b>
Formamide	EVA, foams	According to: EN ISO 16189:2021	Formamide is not part of the scope of EN ISO 16189:2021. Each laboratory has to validate the method for every type of material before using the method. The analysis is performed without the internal standard which is mentioned in the standard.

Parameter	Material	Method	Annotation
Bis(2-methoxyethyl)ether	leather, coated leather, bonded leather, adhesives	According to: EN ISO 16189:2021	BMEE is not part of the scope of EN ISO 16189:2021. Each laboratory has to validate the method for every type of material before using the method. The analysis is performed without the internal standard which is mentioned in the standard.
Nitrosamines	Latex, rubber	According to: DIN EN 71-12:2017 (method for elastomers)	-
pH-value	leather, bonded leather, coated leather	EN ISO 4045:2018	-
	synthetic textiles, natural textiles, coated textiles, materials from cellulose	EN ISO 3071:2020	
Quinoline	synthetic textiles, natural textiles, coated textiles	According to: DIN 54231:2022	Quinolin is not part of the scope of DIN 54231:2022. Each laboratory has to validate the method for every type of material before using the method.
Glutaraldehyde	leather, coated leather, leather fibre	EN ISO 17226-1:2019	The standard version from 2019-04 must be used. For Quantification it is mandatory to use a <b>certified derivatized reference standard material</b> .
2,2'-Methylenbis(4-methyl-6-tert-butylphenol) (DBMK)	<b>rubber, latex</b>	<b>EN ISO 11936:2023</b>	<b>2,2'-Methylenbis(4-methyl-6-tert-butylphenol) is not part of the scope of EN ISO 11936:2023. Each laboratory has to validate the method for every type of material before using the method.</b>
<b>Other phenols</b>			
Nonylphenol	coated leather, plastics, foams, coated textiles	EN ISO 21084:2019	Deviation for hard plastics: Extraction with THF instead of MeOH, in line with prEN ISO 14389:2021 clause 7.2.2 and 7.2.3 without use of the given internal standards.
Octylphenol			
Nonylphenol ethoxylates	leather, bonded leather, coated leather	EN ISO 18218-1:2023	<b>Quantification is performed according to EN ISO 18254-1:2016</b>
Octylphenol ethoxylates	textiles, coated textiles, materials from cellulose, adhesives	EN ISO 18254-1:2016	-

Parameter	Material	Method	Annotation
<b>Phthalates</b>	coated leather, adhesives, plastics, foams, coated textiles	EN ISO 16181-1:2021 EN ISO 14389:2022	Alternatively, textiles can be tested with EN ISO 14389:2022, other materials are tested with EN ISO 16181-1:2021. Only individual values with a value of $\geq 100$ mg/kg are considered to calculate the sum.
<b>Polycyclic aromatic hydrocarbons</b>	coated leather, plastics, foams, coated textiles	EN ISO 16190:2021 textile: EN 17132:2019	Only individual values with a value of $\geq 0,5$ mg/kg are considered to calculate the sum.
<b>Volatile organic compounds</b>			
2-Phenyl-2-Propanol Acetophenone	EVA	Headspace-GC-MS	conditions: 120 °C, 45 min;
other VOC	various materials (see RSL)	Headspace-GC-MS	<b>conditions: 120 °C, 45 min;</b>
<b>Chlorinated benzenes and toluenes</b>	synthetic textiles, coated textiles	<b>prEN 17137:2023</b>	<b><del>Only individual values with a value of <math>\geq 0,2</math> mg/kg are considered to calculate the sum.</del></b>
<b>Flame retardants</b>			
Brominated flame retardants		EN ISO 17881-1:2016	Only individual values with a value of $\geq 5$ mg/kg are considered to calculate the sum.
Phosphorus flame retardants	various materials (see RSL)	EN ISO 17881-2:2016	Deviation: Instead of extraction according clause 5.3 EN ISO 17881-2:2016 the procedure described in EN ISO 17881-1:2016 Clause 5.3 has to be applied. Instead of Acetone, Toluene has to be used as extraction solvent.
<b>Greenhouse gases</b>			Not to be tested, proof of conformity by declaration
<b>Perfluorinated substances</b>	leather, coated leather, leather fibre, synthetic textiles, natural fibres	leather: <b>prEN ISO 23702-1:2023</b> textile: <b>prEN 17681-1:2023</b> textile: EN 17681-1:2022 textile: EN 17681-2:2022	Draft standard for footwear will be developed. Only individual values with a value of 0,2 mg/kg are considered to calculate the sum for the precursor substances. Some regulations also restrict perfluoropolymers having a linear or branched perfluoroheptyl group with the moiety (C <sub>7</sub> F <sub>15</sub> )C as one of the structural elements that can degrade to PFOA, e.g. polymers containing 2-perfluorooctylethanol (8:2 FTOH, CAS no. 678-39-7) bonded as esters. <b>Therefore it is highly recommended to use the prEN 17681-1:2023 which include the alkaline hydrolysis instead of the EN 17681-1:2022 for all materials including coated leather and leather fibre. EN ISO 23702-1:2023 should be used for not coated leather only.</b>

Parameter	Material	Method	Annotation
Bisphenols	leather, coated leather, leather fibre, plastics, process chemicals	EN ISO 11936:2023	Deviation for plastic: Extraction solvent THF instead of MeOH.
Melamin	leather, coated leather, leather fibre	inhouse	CADS method needs to be developed. Labs should use a inhouse method. Detection via LC-MS possible.
Packaging or packaging components Lead, Cadmium, Mercury, Chromium VI	packaging or packaging components	DIN EN 16711-1:2016	Microwave digestion of samples; total dissolution has to be checked. In case of incomplete digestion of the sample different digestion solutions have to be used. Determination of the Cr content according to EN 16711-1:2016. If the sum of Pb, Cd, Hg, Cr value is >100 mg/kg, the CrVI content according to EN ISO 17075-1:2017 or EN ISO 17075- 2:2017 has to be determined.