2.2 Restricted Substances Manual

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1 Introduction

The Restricted Substances Manual refers to all s.Oliver Products like apparel, non-apparel, accessories and all products which do not fall into a category mentioned before. This manual refers also to materials, trimmings, chemicals and other goods needed for the manufacturing of s.Oliver apparel, non-apparel, accessories and other products. This manual is an important part of s. Oliver's product stewardship and environmental program. It has to be provided to everybody, who provides s.Oliver with materials, trimmings, chemicals and other goods.

It is required for every supplier/vendor to declare if materials, trimmings, chemicals and other goods, provided or delivered to s.Oliver, comply with the prohibitions and limitations listed in the Restricted Substances (RS).

2 Targets of the s.Oliver RS program

The prolonged discussion concerning the unexpected consequences of an economic and corporate global cross linking like e.g. climate change shows us again and again quite plainly, that mankind cannot act arbitrary on our planet.

s.Oliver recognizes its corporate responsibility in the field of humanity, the environment and its business partners and commits to fair and sustainable business practices. Corporate sustainability implies highly weighted economic, ecologic and social factors therefore it requires concepts to create the consequences of our actions more sustainable. This has to be communicated adequately to our business partners, clients and suppliers/vendors. In a world of global relations and dependences as well as extensive sourcing structures the conception and structured communication of product properties becomes more and more relevant. In the interest of the customer, the environment and the employees involved in the manufacturing s.Oliver strives to ensure that its quality demands can be controlled and retraced at any time.

In textile manufacturing many chemicals are used as additives on the way from the raw material like fiber or textile up to the finished garment. It is essential for the downstream user to have knowledge of these substances to arrange his production processes in an optimized way (environmental protection, workers health and safety). The consumer expects biocompatible garments and accessories. For this compliance with only the minimum legal requirements is not sufficient.

Conclusions:

- We expect our business partners to comply with minimum social standards as written in our code of conduct.
- We expect that delivered products fully comply with actual laws and regulations concerning product safety and environment.
- In connection with the European Community Regulation REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) it is expected that so-called SVHC`s (substances of very high concern) are not contained in concentrations >0,1 %. If this is still the case s.Oliver has to be informed immediately. The supplier/vendor is responsible for the regular monitoring of the SVHC list (candidate list of Annex XIV of REACH) on the website (http://www.echa.eu) of the European Chemicals Agency (ECHA). Please also refer to the s.Oliver QGC document "2.3.1 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)".
- We encourage our business partners, to take a proactive stance in minimizing environmental and product safety risk.
- We strive to avoid the use of PVC.
- Further we strive to avoid the use of hazardous, harmful and environmental hazardous chemicals in general.
- In terms of precautionary principles and the advancement of well being of employees and consumers we strive to avoid disagreeable odour also in sanitary unobjectionable cases.
- We avoid the use of real fur in our products.
- We do not use leather or other material from any endangered or threatened species

3 Restricted Substances / Limit Values / Test Methods

A multiplicity of laws and regulations in different countries require the limitation and complete avoidance of certain chemicals. The following tables give an overview which hazardous substances must not be contained or have to keep a certain limit value.

This binding list summarized by s.Oliver for our supplier/vendor represents a „Best Practice Standard", which does not necessarily comply with all national or international laws as well as regulations in all our distribution and manufacturing countries.
It is the sole responsibility of the individual supplier/vendor, that all legal requirements and regulations in those countries are met as well as our best practice standard in current applicable versions.
This applies for example in regard to the German BedarfgegenständeVO (Consumer Product Degree), the ChemikalienVO (Ordinance on the usage of chemicals), LFGB (especially §30) etc..
Whenever a product may be considered to be a toy or jewellery which will be used by a child, the regulations of the EU directives and the EN 71 have to be taken into account.
If any national or international law as well as regulation is not explicitly mentioned it does not release the suppliers/vendors of compliance.
Therefore the supplier/vendor hereby gives assurances that the products to be manufactured and supplied shall be manufactured in compliance with all legal regulations and manufactured according to the criteria of this Restricted Substances Manual.

We attempt to avoid the use of toxic, harmful and environmental hazardous chemicals in general.
This relates to adhesives, finishing chemicals and spot cleaners etc., even if there is no given regulation in chapter 3.
We assume such chemicals as toxic, harmful and environmental hazardous chemicals which are subject of the German labelling directives for chemicals.

- *Toxic and very toxic substances (incl. carcinogenic substances): < 0.1 %*
- *Persistent substances < 0,1 %*
- *Harmful substances < 1 %*

This chapter lists **Limit Values (LV)** for various chemicals and indicates **Methods for Pre-Treatment** and **Testing**. To avoid confusion with units the correlation between ppm (mg/kg) and % is listed in the following table.

ppm[1)] value	% value	mg/kg[2)]
0.01	0.000 001	0.01
0.1	0.000 01	0.1
1	0.000 1	1
10	0.001	10
100	0.01	100
1 000	0.1	1 000
10 000	1	10 000
100 000	10	100 000
1 000 000	100	1 000 000

[1)] parts per million
[2)] In aqueous solutions mg/kg is very often used equal to mg/l

3.1 Restricted Substances List (RSL)

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement
	Acetophenone and 2-Phenyl-2-Propanol			
98-86-2	Acetophenone	50 ppm each	Potential breakdown products in EVA foam when using dicumyl peroxide as a cross-linking agent.	Extraction in acetone GC/MS, sonication for 30 minutes at 60 degrees C
617-94-7	2-Phenyl-2-propanol			
	Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs), including all isomers			
104-40-5	Nonylphenol (NP), mixed isomers	Total: 100 ppm	APEOs can be used as or found in detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifying/dispersing agents for dyes and prints, impregnating agents, de-gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings. APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes. We acknowledge that residual or trace concentrations of APEOs may still be found at levels exceeding 100 ppm and that more time is necessary for the supply chain to phase them out completely. This limit reflects anticipated EU legislation and was set to provide suppliers with advance warning and direction for continuous improvement.	Textile: EN ISO 18254-1: 2016, determination of AP using LC/MS or GC/MS Leather: EN ISO 18218-1:2015
11066-49-2				
25154-52-3				
84852-15-3				
140-66-9	Octylphenol (OP), mixed isomers			
1806-26-4				
27193-28-8				
9002-93-1	Octylphenol ethoxylates (OPEOs)	Total: 100 ppm		
9036-19-5				
68987-90-6				
9016-45-9	Nonylphenol ethoxylates (NPEOs)			
26027-38-3				
37205-87-1				
68412-54-4				
127087-87-0				

	Azo-amines			
92-67-1	4-Aminobiphenyl	20 ppm each	Azo dyes and pigments are colourants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those which degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for dyeing of textiles.	Textile: (EU): prEN ISO 14362-1:2015 Leather: (EU): CEN ISO/TS 17234-1:2015 p-Aminoazobenzene: Textile: EN 14362-3:2015 Leather: 17234-2:2011
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-Chloroaniline			
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			
120-71-8	p-Cresidine			
101-14-4	4,4'-Methylen-bis(2-chloroaniline)			
101-80-4	4,4'-Oxydianiline			
139-65-1	4,4'-Thiodianiline			
95-53-4	o-Toluidine			
95-80-7	2,4-Toluylendiamine			
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			
	Bisphenol-A			
80-05-7	Bisphenol-A (BPA)	1 ppm	Used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC. Prohibited from use in food and drink containers, and items intended to come into contact with oral cavity.	Sample preparation: Extraction: 1 g sample/20 ml methanol, sonication for 60 minutes at 70°C. Measurement: DIN EN ISO 18857-2 (mod)

	Chlorinated Paraffins			
85535-84-8	Short-chain chlorinated Paraffins (SCCP) (C10-C13)	1000 ppm	May be used as flame retardants or as fat liquoring agents in leather production. They also can be used as plasticizers.	EN ISO 18219:2016
85535-85-9	Medium-chain chlorinated Paraffins (MCCP) (C14-C17)	1000 ppm		
	Chlorophenols			
15950-66-0	2,3,4-Trichlorophenol	0.5 ppm each	Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP) and tetrachlorophenol (TeCP) are sometimes used to prevent mold and kill insects when growing cotton and when storing/transporting fabrics. PCP and TeCP can also be used as preservatives in print pastes.	1 M KOH extraction, 12-15 hours at 90 °C, derivatization and analysis § 64 LFGB B 82.02-08 or DIN EN ISO 17070:2015
933-78-8	2,3,5-Trichlorophenol			
933-75-5	2,3,6-Trichlorophenol			
95-95-4	2,4,5-Trichlorophenol			
88-06-2	2,4,6-Trichlorophenol			
609-19-8	3,4,5-Trichlorophenol			
4901-51-3	2,3,4,5-Tetrachlorophenol (TeCP)			
58-90-2	2,3,4,6-Tetrachlorophenol (TeCP)			
935-95-5	2,3,5,6-Tetrachlorophenol (TeCP)			
87-86-5	Pentachlorophenol (PCP)			

	Chlororganic Carriers			
95-49-8	2-Chlorotoluene	Total: 1 ppm	Chlorobenzenes and chlorotoluenes (chlorinated aromatic hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/polyester fibres. They can also be used as solvents.	DIN 54232:2010
108-41-8	3-Chlorotoluene			
106-43-4	4-Chlorotoluene			
32768-54-0	2,3-Dichlorotoluene			
95-73-8	2,4-Dichlorotoluene			
19398-61-9	2,5-Dichlorotoluene			
118-69-4	2,6-Dichlorotoluene			
95-75-0	3,4-Dichlorotoluene			
2077-46-5	2,3,6-Trichlorotoluene			
6639-30-1	2,4,5-Trichlorotoluene			
76057-12-0	2,3,4,5-Tetrachlorotoluene			
875-40-1	2,3,5,6-Tetrachlorotoluene			
877-11-2	Pentachlorotoluene			
541-73-1	1,3-Dichlorobenzene			
106-46-7	1,4-Dichlorobenzene			
87-61-6	1,2,3-Trichlorobenzene			
120-82-1	1,2,4-Trichlorobenzene			
108-70-3	1,3,5-Trichlorobenzene			
634-66-2	1,2,3,4-Tetrachlorobenzene			
634-90-2	1,2,3,5-Tetrachlorobenzene			
95-94-3	1,2,4,5-Tetrachlorobenzene			
608-93-5	Pentachlorobenzene			
118-74-1	Hexachlorobenzene			
95-50-1	1,2-Dichlorobenzene	10 ppm		
	Dimethylformamide			
68-12-2	Dimethylformamide (DMFa)	500 ppm	DMFa is a solvent used in plastics, rubber, and polyurethane (PU) coating. Water-based PU does not contain DMFa and is therefore preferable.	DIN CEN ISO/TS 16189:2013
	Dimethylfumarate			
624-49-7	Dimethylfumarate (DMFu)	0.1 ppm	DMFu is an anti-mold agent used in sachets in packaging to prevent the buildup of mold, especially during shipping.	CEN ISO/TS 16186:2012

	Dyes, Forbidden and Disperse			
2475-45-8	C.I. Disperse Blue 1	75 ppm each	Disperse dyes are a class of water-insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fibre (e.g., polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles.	DIN 54231:2005
2475-46-9	C.I. Disperse Blue 3			
3179-90-6	C.I. Disperse Blue 7			
3860-63-7	C.I. Disperse Blue 26			
12222-75-2	C.I. Disperse Blue 35			
12222-97-8	C.I. Disperse Blue 102			
12223-01-7	C.I. Disperse Blue 106			
61951-51-7	C.I. Disperse Blue 124			
23355-64-8	C.I. Disperse Brown 1			
2581-69-3	C.I. Disperse Orange 1			
730-40-5	C.I. Disperse Orange 3			
82-28-0	C.I. Disperse Orange 11			
12223-33-5	C.I. Disperse Orange 37/76/59			
13301-61-6				
51811-42-8				
85136-74-9	C.I. Disperse Orange 149			
2872-52-8	C.I. Disperse Red 1			
2872-48-2	C.I. Disperse Red 11			
3179-89-3	C.I. Disperse Red 17			
61968-47-6	C.I. Disperse Red 151			
119-15-3	C.I. Disperse Yellow 1			
2832-40-8	C.I. Disperse Yellow 3			
6300-37-4	C.I. Disperse Yellow 7			
6373-73-5	C.I. Disperse Yellow 9			
6250-23-3	C.I. Disperse Yellow 23			
12236-29-2	C.I. Disperse Yellow 39			
54824-37-2	C.I. Disperse Yellow 49			
54077-16-6	C.I. Disperse Yellow 56			
3761-53-3	C.I. Acid Red 26			
569-61-9	C.I. Basic Red 9			
569-64-2	C.I. Basic Green 4			
2437-29-8				
10309-95-2				

548-62-9	C.I. Basic Violet 3	75 ppm each	Disperse dyes are a class of water-insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fibre (e.g., polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles.	
632-99-5	C.I. Basic Violet 14			
2580-56-5	C.I. Basic Blue 26			
1937-37-7	C.I. Direct Black 38			
2602-46-2	C.I. Direct Blue 6			
573-58-0	C.I. Direct Red 28			
16071-86-6	C.I. Direct Brown 95			
60-11-7	4-Dimethylaminoazobenzene (Solvent Yellow 2)			
6786-83-0	C.I. Solvent Blue 4			
561-41-1	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol			
	Dyes, Navy Blue			
118685-33-9	Component 1: C39H23ClCrN7O12S·2Na	75 ppm each	Navy blue colourants are regulated and are prohibited from use for dyeing of textiles. (Index 611-070-00-2)	DIN 54231:2005
Not allocated	Component 2: C46H30CrN10O20S2·3Na			
	Flame Retardants			
126-72-7	Tris(2,3,-dibromopropyl) phosphate (TRIS)	Total: 5 ppm	Flame-retardant chemicals are rarely used to meet flammability requirements in children's clothing and adult products. They should no longer be used in apparel and footwear.	Methanol extraction, GC/MS
545-55-1	Tris(1-aziridinyl)phosphine oxide) (TEPA)			LC-MS
32534-81-9	Pentabromodiphenyl ether (PentaBDE)			Acetonitril extraction, LC-DAD-MS, and confirmation with GC/MS
32536-52-0	Octabromodiphenyl ether (OctaBDE)			
1163-19-5	Decabromodiphenyl ether (DecaBDE)			
79-94-7	Tetrabromobisphenol A (TBBP A)			
115-96-8	Tris(2-chloroethyl)phosphate (TCEP)			Methanol extraction, GC/MS
59536-65-1	Polybromobiphenyls (PBB)			
5412-25-9	Bis(2,3-dibromopropyl) phosphate (BDBPP)			
3194-55-6	Hexabromocyclododecane (HBCDD)			
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)			
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCPP)			
25155-23-1	Trixylyl phosphate (TXP)			

	Fluorinated Greenhouse Gases			
Various	See Regulation (EC) No 842/2006 for a complete list.	0.1 ppm each		Sample preparation: Purge and trap — thermal desorption or SPME Measurement: GC/MS
	Formaldehyde			
50-00-0	Formaldehyde	Adults and children: 75 ppm Babies: 16 ppm	Used in textiles as an anti-creasing and anti-shrinking agent. It is also often used in polymeric resins.	Textile: JIS L 1041-1983 A (Japan Law 112) or EN ISO 14184-1:2011 Leather: ISO 17226-2:2008 with ISO 17226-1:2008 confirmation method in case of interferences.
	Heavy Metals			
7440-36-0	Antimony (Sb)	Extractable: 30 ppm	Found in or used as a catalyst in polymerisation of polyester, flame retardants, fixing agents, pigments and alloys.	Sample preparation: EN ISO 105-E04:2013 Measurement: EN ISO 17294-2:2014
7440-38-2	Arsenic (As)	Extractable: 0.2 ppm Total: 100 ppm	Arsenic and its compounds can be used in preservatives, pesticides and defoliants for cotton, synthetic fibers, paints, inks, trims and plastics.	Sample preparation: Extractable: Textiles: EN ISO 105-E04:2013 Leather: DIN EN ISO 17072-1:2014 Total: Microwave digestion with H2O2/HNO3 Measurement: EN ISO 17294-2 :2014
7440-39-3	Barium (Ba)	Extractable: 1000 ppm	Barium and its compounds can be used in pigments for inks, plastics, surface coatings, as well as in dyeing, mordant, filler in plastics, textile finish, and leather tanning.	Sample preparation: Extractable: Textiles: EN ISO 105-E04:2013 Leather: DIN EN ISO 17072-1:2014 Measurement: EN ISO 17294-2 :2014
7440-43-9	Cadmium (Cd)	Extractable: 0.1 ppm Total: Adults: 75 ppm Children and babies: 40 ppm	Cadmium compounds are used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides and paints. The total limit for all will be reduced to 40 ppm in a future update.	Sample preparation: Extractable: Textiles: EN ISO 105-E04:2013 Leather: DIN EN ISO 17072-1:2014 Total: Microwave digestion with H2O2/HNO3 Measurement: EN ISO 17294-2:2014

7440-47-3	Chromium (Cr)	Extractable for textiles: 1 ppm Leather footwear for babies: 60 ppm	Chromium compounds can be used as dyeing additives, dye-fixing agents, colour fastness after-treatments, dyes for wool, silk and polyamide (especially dark shades) and leather tanning.	Sample preparation: EN ISO 105-E04:2013 Measurement: EN ISO 17294-2:2014
18540-29-9	Chromium VI	Extractable: Leather: 3ppm Knitted textiles for babies: 0.5 ppm	Though typically associated with leather tanning, Chromium VI also may be used in the dyeing of wool (after the chroming process).	Sample preparation: Textile: EN ISO 105-E04:2013 Leather ageing: Conditions for leather ageing: 24 hours, 80 degrees C, maximum 5% relative humidity, no ventilation; EN 17075-1:2015 Measurement: Textile: EN ISO 17294-2 Leather: EN 17075-1:2015
7440-48-4	Cobalt (Co)	Extractable: 1 ppm	Cobalt and its compounds can be used in alloys, pigments, dyestuff, and the production of plastic buttons.	Sample preparation: EN ISO 105-E04:2013 Measurement: EN ISO 17294-2
7440-50-8	Copper (Cu)	Extractable: 25 ppm	Copper and its compounds can be found in alloys and pigments, and in textiles as an antimicrobial agent.	Sample preparation: EN ISO 105-E04:2013 Measurement: EN ISO 17294-2:2014
7439-92-1	Lead (Pb)	Extractable: Adults and children: 1 ppm Babies: 0.2 ppm Total: 90 ppm	May be associated with plastics, paints, inks, pigments and surface coatings.	Sample preparation: Extractable: EN ISO 105-E04:2013 Total: Microwave digestion with H202/HNO3 Lead in paint and surface coating: CPSIA Section 101 16 CFR 1303 Measurement: EN ISO 17294-2:2014
7439-97-6	Mercury (Hg)	Extractable: 0.02 ppm Total: 0.5 ppm	Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints.	Sample preparation: Extractrable: EN ISO 105-E04:2013 Total: Microwave digestion with H202/HNO3 Measurement: EN ISO 17294-2:2014

7440-02-0	Nickel (Ni)	Extractable: 1 ppm Release: Prolonged skin contact: 0.5 µg/cm²/week Pierced part: 0.2 µg/cm²/week	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys.	Sample preparation: Textile: EN ISO 105-E04:2013 Metal parts: EN 12472:2005+ A1:2009 Measurement: Textile: EN ISO 17294-2:2014 Metal parts: EN 1811:2015
7782-49-2	Selenium (Se)	Extractable: 500 ppm	May be found in synthetic fibres, paints, inks, plastics and metal trims.	Sample preparation: EN ISO 105-E04:2013 Measurement: EN ISO 17294-2:2014
	Monomers			
100-42-5	Styrene	500 ppm	Styrene is a precursor for polymerization and may be present in various styrene-copolymers like plastic buttons.	120 degrees C for one hour headspace solvent extraction GC-MS; Methanol extraction at 60 degrees C
	N-Nitrosamines			
62-75-9	N-nitrosodimethylamine (NDMA)	0.5 ppm each	Can be formed as by-product in the production of rubber.	GB/T 24153-2009: determination using GC/MS or LC/MS/MS
55-18-5	N-nitrosodiethylamine (NDEA)			
621-64-7	N-nitrosodipropylamine (NDPA)			
924-16-3	N-nitrosodibutylamine (NDBA)			
100-75-4	N-nitrosopiperidine (NPIP)			
930-55-2	N-nitrosopyrrolidine (NPYR)			
59-89-2	N-nitrosomorpholine (NMOR)			
614-00-6	N-nitroso N-methyl N-phenylamine (NMPhA)			
612-64-6	N-nitroso N-ethyl N-phenylamine (NEPhA)			
	Organotin Compounds			
Various	Dibutyltin (DBT)	1 ppm each	Class of chemicals combining tin and organics such as butyl and phenyl groups. 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 stabilizers in plastics/rubber. In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.	CEN ISO/TS 16179: 2012
Various	Dioctyltin (DOT)			
Various	Monobutyltin (MBT)			
Various	Tributyltin (TBT)	0.5 ppm each		
Various	Triphenyltin (TPhT)			
Various	All tri-substituted Organotin compounds	1 ppm each		

	Ortho-phenylphenol			
90-43-7	Ortho-phenylphenol (OPP)	1000 ppm	OPP can be used for its preservative properties in leather or as a carrier in dyeing processes.	Sample Preparation: §64 BVL B 82.02.08 Measurement: GC-MS, LC-MS for confirmation
	Ozone-depleting Substances			
Various	See Regulation (EC) No 1005/2009 for a complete list.		Ozone-depleting substances are prohibited from use.	GC/MS headspace 120°C for 45 minutes
	Perfluorinated and Polyfluorinated Chemicals (PFCs)			
2795-39-3	Perfluorooctane Sulfonate (PFOS)	1 µg/m² each	PFOA and PFOS may be present as unintended byproducts in long-chain commercial water, oil and stain repellent agents. PFOA may also be used in polymers like polytetrafluoroethylene (PTFE)	CEN/TS 15968:2014
3825-26-1	Perfluorooctanoic Acid (PFOA) and its salts and esters			
	Pesticides, Agricultural			
Various	See Appendix A for a complete list.	0.5 ppm each	May be found in natural fibres, primarily cotton.	ISO 15913/DIN 38407 F2 or EPA 8081/EPA 8151A or BVL L 00.00-34:2010-09
	pH			
	pH-Value	4.0 ≤ pH ≤ 7.5 Leather: 3.5 ≤ pH ≤ 7.5		Non-Leather: DIN EN ISO 3071; Extraction in potassium chloride Leather: DIN EN ISO 4045, Extraction in water

	Phthalates			
28553-12-0	Di-Iso-nonylphthalate (DINP)	500 ppm each Total: 1000 ppm	Esters of ortho-phthalic acid (phthalates) are a class of organic compound commonly added to plastics to increase flexibility. They are sometimes used to facilitate the moulding of plastic by decreasing its melting temperature. Phthalates can be found in: Flexible plastic components (e.g., PVC) Print pastes Adhesives Plastic buttons Plastic sleevings Polymeric coatings The listed phthalates are those most commonly used across industry sectors. Find more information about phthalates restricted by legislation in the REACH SVHC list, which is updated frequently.	Sample preparation: CPSC-CH-C1001-09.3 Measurement: Textile: GC-MS, EN ISO 14389:2014 Leather: GC-MS
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	Dibutylphthalate (DBP)			
84-69-5	Diisobutylphthalate (DIBP)			
68515-42-4	Di(C7-C11 alkyl) phthalate (DHNUP), linear + branched			
71888-89-6	Di(C6-C8 alkyl) phthalate (DIHP), branched, C7 rich			
117-82-8	Di(2-methoxyethyl) phthalate (DMEP)			
84-75-3	Di-n-hexylphthalate (DnHP)			
84-66-2	Diethylphthalate (DEP)			
605-50-5	Diisopentylphthalate (DIPP)			
776297-69-9	n-Pentylisopentylphthalate (NPIPP)			
131-18-0	Di-n-pentylphthalate (DPP)			
68515-50-4	Dihexylphthalate, branched + linear			
131-11-3	Dimethylphthalate (DMP)			
84777-06-0	1,2-Benzenedicarboxylic acid, dipentylester, branched + linear			

	Polycyclic Aromatic Hydrocarbons (PAHs)				
83-32-9	Acenaphthene	No individual restriction	Total: 10 ppm	PAHs are natural components of crude oil and are common residues from oil refining. PAHs have a characteristic smell similar to that of car tires or asphalt. Oil residues containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers and coatings. PAHs are often found in the outsoles of footwear and in printing pastes for screen prints. PAHs can be present as impurities in Carbon Black. They also may be formed from thermal decomposition of recycled materials during reprocessing **Naphthalene: Dispersing agents for textile dyes may contain high residual naphthalene concentrations due to the use of low-quality naphthalene derivatives (e.g., poor-quality naphthalene sulphonate formaldehyde condensation products).	AFPS GS 2014
208-96-8	Acenaphthylene				
120-12-7	Anthracene				
191-24-2	Benzo(g,h,i)perylene				
86-73-7	Fluorene				
206-44-0	Fluoranthene				
193-39-5	Indeno(1,2,3-cd)pyrene				
91-20-3	Naphthalene**				
85-01-8	Phenanthrene				
129-00-0	Pyrene				
56-55-3	Benzo(a)anthracene	1 ppm each Child care articles: 0.5 ppm each			
50-32-8	Benzo(a)pyrene				
205-99-2	Benzo(b)fluoranthene				
192-97-2	Benzo[e]pyrene				
205-82-3	Benzo[j]fluoranthene				
207-08-9	Benzo(k)fluoranthene				
218-01-9	Chrysene				
53-70-3	Dibenzo(a,h)anthracene				
	Polyvinylchloride				
9002-86-2	PVC	Not detectable			Burning Test by Beilstein Method / FT-IR

	Volatile Organic Compounds (VOCs)			
71-43-2	Benzene	5 ppm	These VOCs should not be used in textile auxiliary chemical preparations. They are also associated with solvent-based processes such as solvent-based polyurethane coatings and glues/adhesives. They should not be used for any kind of facility cleaning or spot cleaning.	For general VOC screening: GC/MS headspace 45 minutes at 120 degrees C For DMAC: DIN CEN ISO/TS 16189:2013
56-23-5	Carbon tetrachloride	Total: 1000 ppm		
67-66-3	Chloroform			
107-06-2	1,2-Dichloroethane			
75-35-4	1,1-Dichloroethylene			
127-19-5	Dimethylacetamide (DMAC)			
76-01-7	Pentachloroethane			
630-20-6	1,1,1,2- Tetrachloroethane			
79-34-5	1,1,2,2- Tetrachloroethane			
127-18-4	Tetrachloroethylene (PER)			
108-88-3	Toluene			
71-55-6	1,1,1- Trichloroethane			
79-00-5	1,1,2- Trichloroethane			
79-01-6	Trichloroethylene			
1330-20-7	Xylenes (meta-, ortho-, para-)			

The size classification for babies is for size ≤ 30 for shoes and ≤ 140 for textiles

3.2 Appendix A: Pesticides, Agricultural

CAS No.	Pesticide Name	CAS No.	Pesticide Name	CAS No.	Pesticide Name
93-72-1	2-(2,4,5-trichlorophenoxy) propionic acid, its salts and compounds			118-74-1	Hexachlorobenzene
93-76-5	2,4,5-T	115-32-2	Dicofol	465-73-6	Isodrine
93-72-1	2,4,5-TP	141-66-2	Dicrotophos	4234-79-1	Kelevane
94-75-7	2,4-D	60-57-1	Dieldrine	143-50-0	Kepone
309-00-2	Aldrine	60-51-5	Dimethoate	7784-40-9	Lead hydrogen arsenate
86-50-0	Azinophosmethyl	88-85-7	Dinoseb, its salts and acetate	58-89-9	Lindane
2642-71-9	Azinophosethyl	57648-21-2	DTTB (Timiperone)	121-75-5	Malathione
4824-78-6	Bromophos-ethyl	115-29-7	Endosulfan	94-74-6	MCPA
2425-06-1	Captafol	959-98-8	Endosulfan I (alpha)	94-81-5	MCPB
63-25-2	Carbaryl	33213-65-9	Endosulfan II (beta)	93-65-2	Mecoprop
510-15-6	Chlorbenzilat	72-20-8	Endrine	10265-92-6	Metamidophos
57-74-9	Chlordane	66230-04-4	Esfenvalerate	72-43-5	Methoxychlor
6164-98-3	Chlordimeform	106-93-4	Ethylendibromid	2385-85-5	Mirex
470-90-6	Chlorfenvinphos	56-38-2	Ethylparathione	6923-22-4	Monocrotophos
1897-45-6	Chlorthalonil	51630-58-1	Fenvalerate	56-38-2	Parathion
56-72-4	Coumaphos	1336-36-3	Halogenated biphenyls, including Polychlorinatedbiphenyl (PCB)	298-00-0	Parathion-methyl
68359-37-5	Cyfluthrin	53469-21-9		608-90-2	Pentabromobenzene
91465-08-6	Cyhalothrin	Various		1825-21-4	Pentachloroanisole
52315-07-8	Cypermethrin	Various	Halogenated terphenols, including polychlorinated terphenyl (PCT)	52645-53-1	Permethrine
78-48-8	S,S,S-Tributyl phosphorotrithioate (Tribufos)	Various	Halogenated naphthalenes, including polychlorinated naphthalenes (PCNs)	7786-34-7	Phosdrin/Mevinphos
52918-63-5	Deltamethrin	Various	Halogenated diarylalkanes	72-56-0	Perthane
53-19-0	DDD	99688-47-8	Halogenated diphenyl methanes, including Monomethyl-dibromo-diphenyl methane, Monomethyl-dichloro-diphenyl methane, and Monomethyl-tetrachloro-diphenyl methane	31218-83-4	Propethamphos
72-54-8		81161-70-8		41198-08-7	Profenophos
3424-82-6	DDE	76253-60-6		13593-03-8	Quinalphos
72-55-9		76-44-8	Heptachlor	82-68-8	Quintozene
50-29-3	DDT	1024-57-3	Heptachloroepoxide	8001-50-1	Strobane
789-02-6		36355-01-8	Hexabromobiphenyl	297-78-9	Telodrine
333-41-5	Diazinone	319-84-6	a-Hexachlorocyclohexane with and without Lindane	8001-35-2	Toxaphene
1085-98-9	Dichlofluanide	319-85-7	b-Hexachlorocyclohexane with and without Lindane	731-27-1	Tolylfluanide
120-36-5	Dichloroprop	319-86-8	g-Hexachlorocyclohexane with and without Lindane	1582-09-8	Trifluraline

4 Which test for which material?

Based on our experience the following tables give recommendations that help to decide in which cases parameters are of particular relevance. In these cases, tests are highly recommended. It must be pointed out that these recommendations (including the case that a special material or component is not mentioned), do not release the supplier/vendor from his responsibility to comply with the requirements of the Restricted Substances as well as all relevant local and national laws and regulations in all cases for all materials and all parameters.

4.1 Textile fibres / Artificial leather / Leather / Miscellaneous / Packaging

Test parameters	Natural Fibres (include animal, plants and modified e.g. viscose)	Synthetic Fibres or blended Fibers	Artificial Leather with Fibre Backing	Natural Leather	Coatings and Prints	Natural materials (include horns, bones, cork, wood, paper, straw)	Plastics	Metal	Foams	Feathers	Glue	Packaging
Alkylphenolethoxylates (APEOs)	C	C	C	C		O				C		
Azo-amines	C	C	C	C	C	C[1)]			C[2)]	C[1)]		
Short-chain chlorinated Paraffins (SCCP) (C10-C13)			O	C	O		O					
Medium-chain chlorinated Paraffins (MCCP) (C14-C17)			O	O	O		O					
PCP	C			C		C				C		
Chlorophenols (Tri-; Tetrachlorphenols & Ortho-phenylphenol)	O			O		O				O		
Chlororganic Carriers		O										
Dimethylformamide (DMFa)			O									
Dimethylfumarate (DMFu)				O								
Dyes, Forbidden and Disperse		C										
Flame Retardants	Flame Retardants finishes											
Formaldehyde	O	O	O	O	C	C					C	
Heavy Metals, Chromium VI				C								
Heavy Metals, Nickel Release								C				
Heavy Metals, Cadmium Total			O		O		C	O				
Heavy Metals, Lead Total			O		O		O	C				
Heavy Metals, Extractable	O	O	O	O	O		O	O				
Organotin Compounds			O		O		O					
Perfluorinated and Polyfluorinated Chemicals (PFCs)	Water-repellent finishes											
Phthalates: DINP, DNOP, DEHP, DIDP, BBP, DBP, DIBP			C		C		C				C	
Phthalates additional			O		O		O				O	
Polycyclic Aromatic Hydrocarbons (PAHs)			O				O					
PVC			O		O		O					
Total content (Pb, Cd, Cr-VI, Hg) acc. to Packaging Directive												C

1) only needed "if coloured" (describes natural materials which are coloured due to a dyeing process) or plastic items, which have a coating/print, if solid dyed no test needed.
2) Push up, padded bras, beachwear etc. whenever a PU foam is used!

Remarks:
Core (C) (Mandatory) test is in Yellow / Optional (O) (Recommended) test is in Green
A material can be defined as blended fibre if the percentage of synthetic fibres, in regard to the complete material composition, is higher than 5%.
Please strongly consider, whenever a finishing like garment dye or garment wash etc. is conducted, the already performed tests have to be repeated if necessary.
Whenever a product may be considered to be a toy or jewellery which will be used by a child, the regulations of the EU directives and the EN 71 have to be taken into account.
If one material or component is not mentioned, please follow test instruction of "Textile fibers or Artificial leather / Leather, or contact s.Oliver Germany directly for a test recommendation

4.1.1 Jewellery

The following instructions only relates to "Jewellery" like earrings, necklaces, wristbands, hair circlets, hair clips etc..

All examples serve only as recommendations based on our experience. The supplier/vendor is responsible for the correct implementation of our Restricted Substances Manual and the relevant regional, national and international regulations which affect his business activities.

- All materials which have a direct and continuous skin contact have to be considered as "prolonged skin contact" and shall be tested!
- Please send at least 4 pieces of the ready made style to the laboratory or each component separately as raw material.

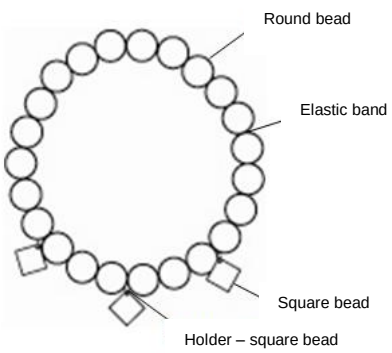
4.1.1.1 Toolkit: Product example - bracelet

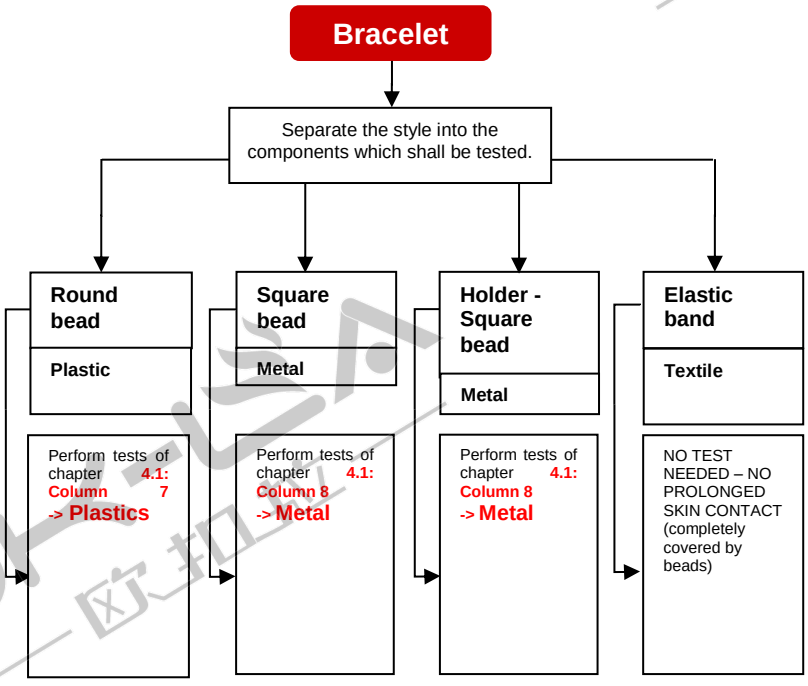
The following tool will explain the general systematic to select the recommended restricted substances as well as the instruction, how a style can be separated into the components which shall be tested (4.1 Textile fibres / Artificial leather / Leather / Miscellaneous / Packaging).

The laboratories will need the information if the test results shall be assessed due to the category **babies/ children or adult.**

	Round bead	Square bead	Holder - Square bead	Elastic band
Material composition	Solid dyed plastic	Metal	Metal	Elastic band (not coloured)

In general all components of a style have to comply with the regulations of the s.Oliver restricted substances manual, even if this product example will not explain each possible component separately.





5 Toolkit

This Restricted Substances Toolkit shall help to select the recommended tests and shall be a practical tool to understand the systematic of the test selection.

All examples serve only as recommendations based on our experience. The supplier/vendor is responsible for the correct implementation of our Restricted Substances Manual and the relevant regional, national and international regulations which affect his business activities.

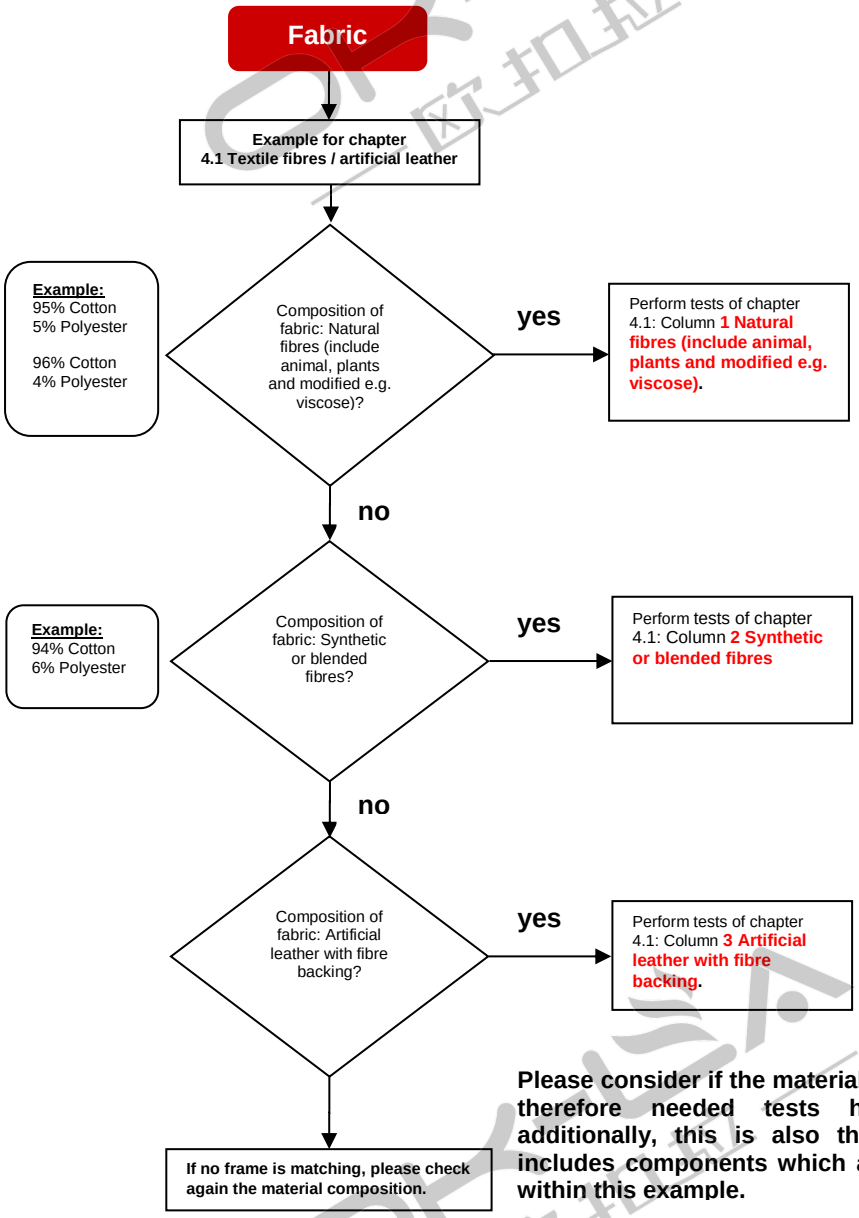
All recommendations are marked red and bold within the frames.

5.1 General systematic

5.1.1 Selection: Restricted Substances

Following the tool will explain the general systematic to select the recommended restricted substances (4.1 Textile fibres / Artificial leather / Leather / Miscellaneous / Packaging). It does not depend on a specific example and can be used for all kinds of materials, e.g. fabrics, tapes, zippers, leather, patches etc. The example only describes a part of possible questions which have to be observed.

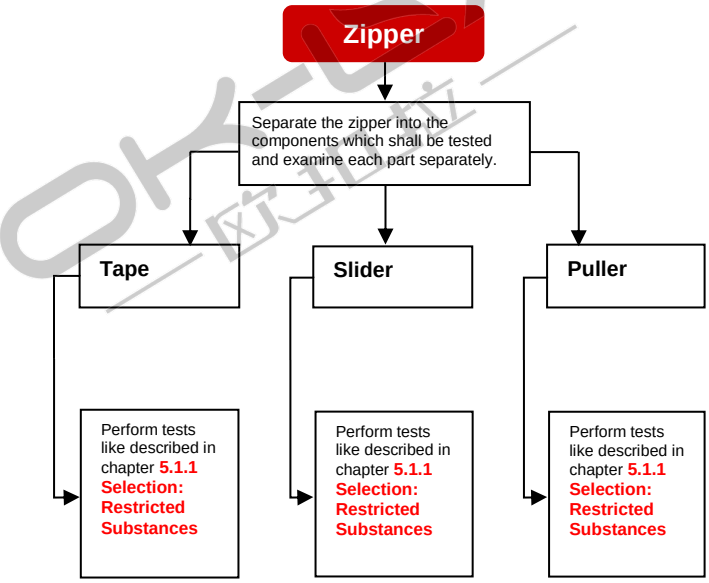
A material can be defined as blended fibre if the percentage of synthetic fibres, in regard to the complete material composition, is higher than 5%.



Please consider if the material has a print or finish the therefore needed tests have to be selected additionally, this is also the case if the material includes components which are not especially listed within this example.

5.1.2 Selection: Components which shall be tested

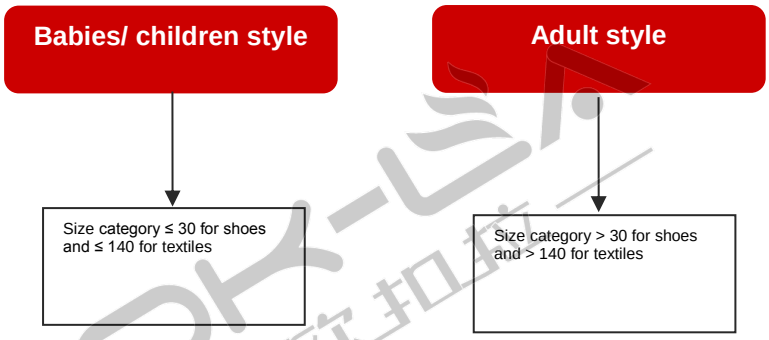
The following tool shall help to understand the general systematic how to separate an example into the components which shall be tested. It does not depend on a specific example and can be used for all kinds of materials, e.g. tapes, zippers, patches etc. The example only describes a part of possible questions which have to be observed. The selection of the needed restricted substances should be based on the systematic of point **5.1.1 Selection: Restricted Substances**.



Please consider if the zipper has a print or finish the therefore needed tests have to be selected additionally, this is also the case if the zipper includes components which are not especially listed within this example.

5.1.3 Selection: Category babies/ children or adult

The laboratories will need the information if the test results shall be assessed due to the category babies/ children or adult. The size classification for babies is stated below the overview of **3.1 Restricted Substances List (RSL)**.



5.2 Product example - Outdoor jacket

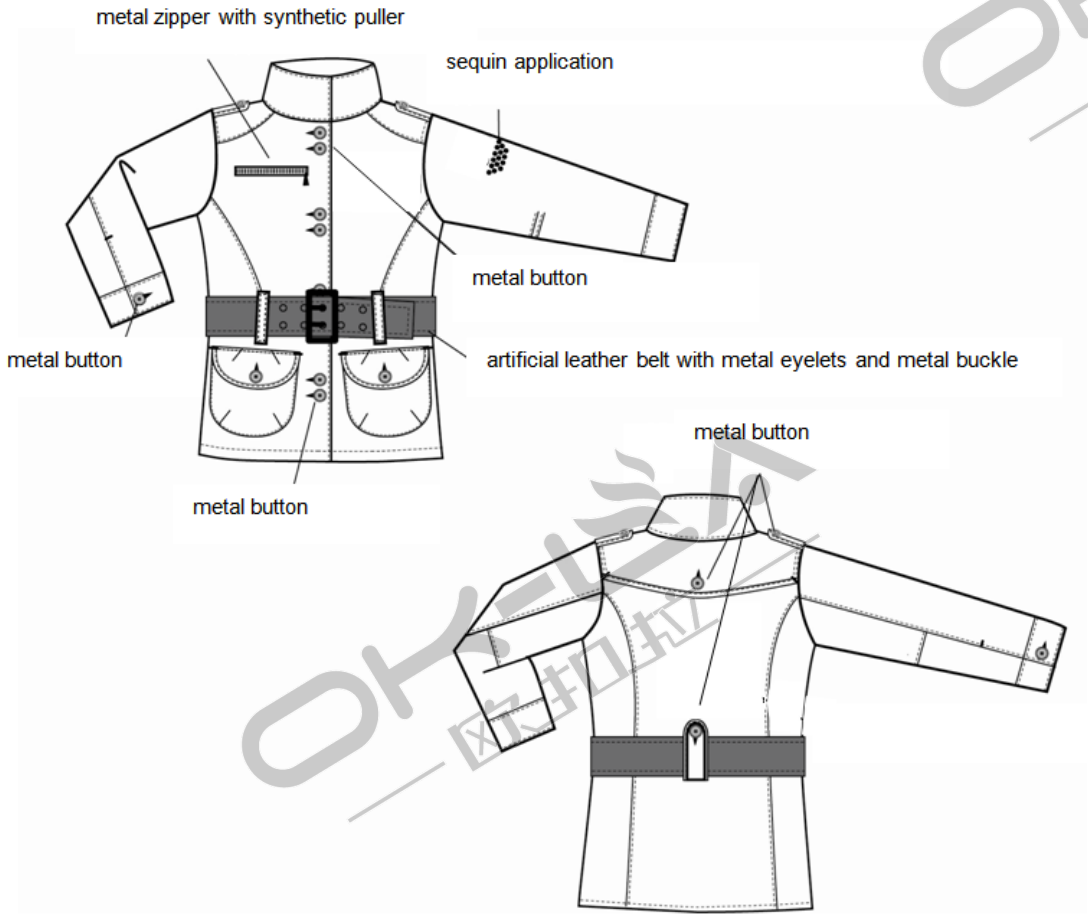
5.2.1 Definition of example

	Shell fabric	Lining	Pocket lining
Material composition[1)]	Cotton/Polyester blend	Cotton	Cotton
Finishes	Garment dye Hydrophobic finish / water repellent	Garment dye	Garment dye

[1)] A material can be defined as blended fibre if the percentage of synthetic fibres, in regard to the complete material composition, is higher than 5% (see also 5.1.1 Selection: Restricted Substances).

Additional components	• Artificial leather belt with metal eyelets and metal buckle • Metal buttons • Metal zipper with synthetic puller • Sequins application (synthetic material)

In general all components of a style have to comply with the regulations of the s.Oliver restricted substances manual, even if this product example will not explain each possible component separately.



5.2.2 Tool: General instruction

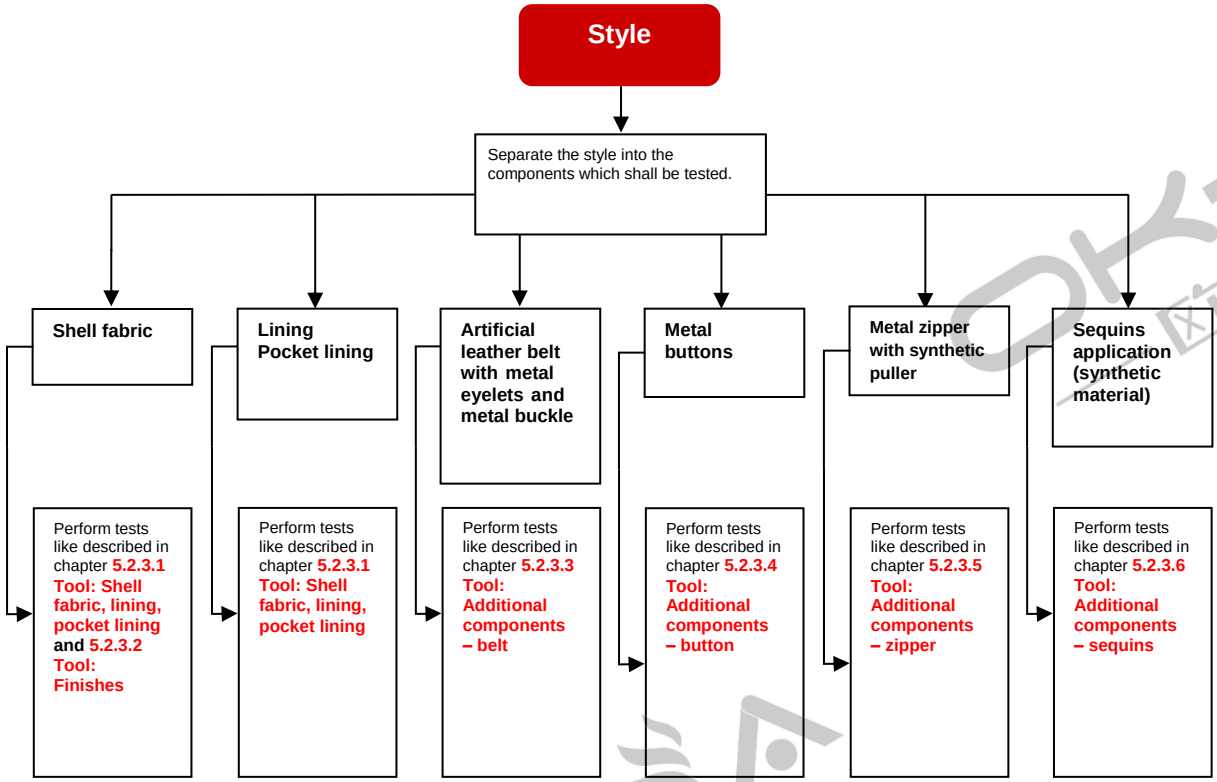
The laboratories will need the information if the test results shall be assessed due to the category babies/ children or adult.

The size classification for babies is stated below the overview of **3.1 Restricted Substances List (RSL)** (see also 5.1.3 Selection: Category babies/ children or adult).

These tools will only advice a part of possible questions which have to be observed. To select the needed restricted substances as well as the components which shall be tested in detail please refer to point **5.1.1 Selection: Restricted Substances** and **5.1.2 Selection: Components which shall be tested**. Within these examples only the solutions will be illustrated.

5.2.3 Tool: Separate the style

This separation is only an example which depends on the chapter **5.2.1 Definition of Example.** These questions will be only a part of possible ones which have to be observed.

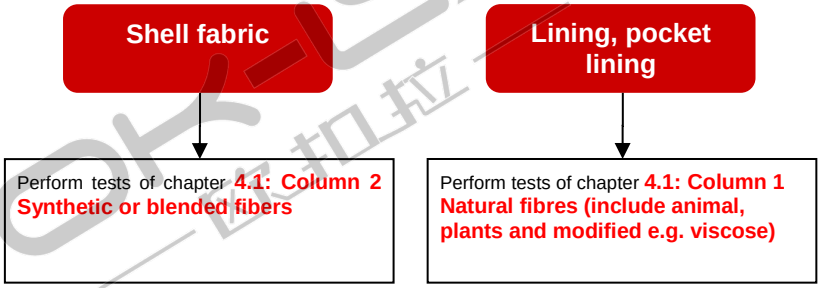


Please note, that the material of the lining and the pocket lining is the same therefore the examples will be mentioned together.

5.2.3.1 Tool: Shell fabric, lining, pocket lining

A material can be defined as blended fibre if the percentage of synthetic fibres, in regard to the complete material composition, is higher than 5% (see also 5.1.1 Selection: Restricted Substances).

Shell fabric: Cotton/Polyester blend
Lining: Cotton
Pocket lining: Cotton

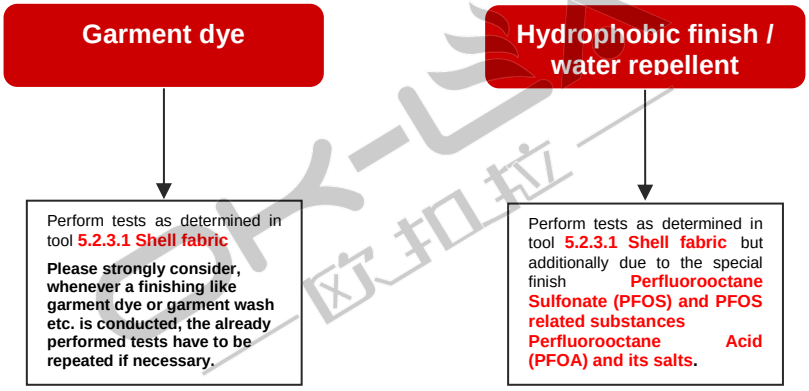


Please consider if the material has a print or finish the therefore needed tests have to be selected additionally, this is also the case if the material includes components which are not especially listed within this example.

5.2.3.2 Tool: Finishes

Please consider, even though the raw material has passed a restricted substances test, the additional finishes, e.g. garment wash or garment dyed, may cause fails.

Finishes: Garment dye and hydrophobic finish / water repellent

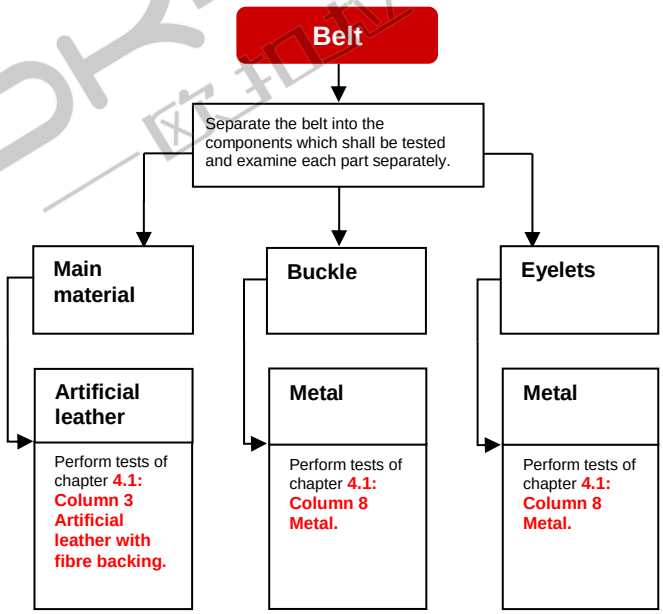


5.2.3.3 Tool: Additional components – belt

This tool only includes the material **artificial leather**, but please note, it is very important to make sure that the tests will be selected based on the correct material type.

Natural leather or **Bonded leather (LEFA)** would have different requirements than artificial leather. To select the correct restricted substances recommendations, the systematic of point **5.1.1 Selection: Restricted Substances** can be used.

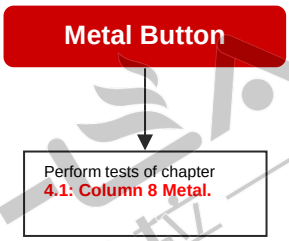
Belt: Artificial leather belt with metal eyelets and metal buckle



Please consider if the belt has a print or finish the therefore needed tests have to be selected additionally, this is also the case if the material includes components which are not especially listed within this example.

5.2.3.4 Tool: Additional components - button

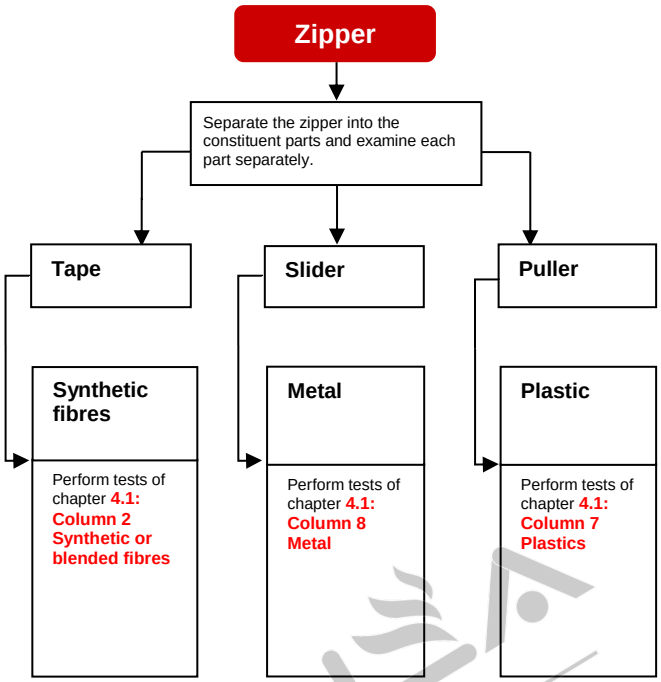
Button: Metal buttons



Please consider if the button has a coating/print the therefore needed tests have to be selected additionally, this is also the case if the button includes components which are not especially listed within this example.

5.2.3.5 Tool: Additional components – zipper

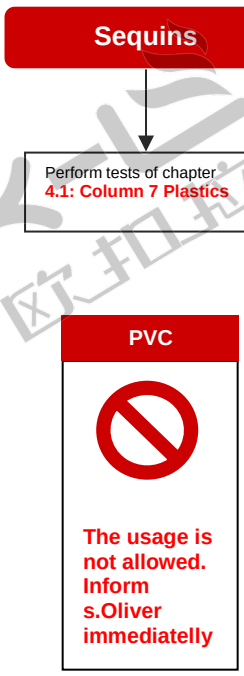
Zipper: Metal zipper



Please consider if the zipper has a print or finish the therefore needed tests have to be selected additionally, this is also the case if the zipper includes components which are not especially listed within this example.

5.2.3.6 Tool: Additional components – sequins

Sequins: Sequins application (synthetic material)



Please consider if the sequins have a print or finish the therefore needed tests have to be selected additionally, this is also the case if the sequins includes components which are not especially listed within this example.

6 Appendix

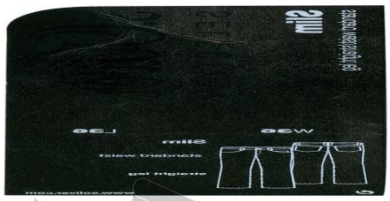
6.1 Glossary

6.1.1 List of Materials

Testing should be done according to their material composition.

Material	Examples	Explanation
Coating and prints	 	e.g. all over prints (AOP), placement prints, coatings
Natural materials (include horns, bones, cork, wood, paper, straw)	 	e.g. decorative items, buttons, straw hat
Plastics		e.g. buttons, stiffeners, plastic rhinestone, sequins
Metal		e.g. buttons, zippers, labels, plated plastic, bracelet closure, earring

Tape (for all materials)		e.g. tapes, patches, ruffles, labels, pipings, velcro (upper & lower part), elastic band, mesh, decorative parts
Zippers (for all materials)		e.g. plastic puller, textile puller, leather puller, metal teeth, plastic teeth
Threads (for all materials)		e.g. overlock seams, linking seams, stitching, “s.Oliver” logo embroideries
Foams		e.g. shoulder pads
Feathers		e.g. coloured feathers, uncoloured feathers

Packaging (for all materials)	  	e.g. tag for extra button, hangtags, inner lays, cardboards, packaging foils, polybags, hanger, etc.