Varner chemical requirements and Restricted Substances List

Legal compliance

A product produced for Varner shall always comply with all directives, regulations, laws and standards applicable to the product and the market where it is sold. Therefore, we expect all suppliers to be well informed on the legal requirement for Europe when trading with Varner brands.

Compliance to chemical legislation, including but not limited to, REACH regulation, EU POP Regulation together with product specific directives/regulations, such as Product Control Act §5a and §6b, General Product Safety Regulation (GPSR), Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 (PPE Regulation), Toy Safety Directive 2009/48/EC and Varner Restricted Substances List are regarded as an inevitable part of knowledge when supplying goods to Varner. All suppliers must fill out, sign, and return the Chemical Self-Assessment before supplier approval, see Appendix 5.

Quality Assurance & Control

We expect all suppliers to have an implemented a proper quality management system in all parts of their production. These shall always be written down and available upon request.

1. Chemical requirement

Varner Restricted Substances List (RSL)

The way we work.

The list of restricted substances shows restricted substances and the maximum concentration. It applies to all our suppliers, their manufacturing units, and their sub-contractors. All suppliers of raw materials, ginning mills, spinning mills, knitting, and weaving mills, laundries, tanneries, dye houses, printing facilities or garment factories must follow our requirements. The RSL also includes requirements for packaging. As a supplier, you have the responsibility to pass on the RSL and its requirements upstream your supply chain.

All orders for Varner must comply with all requirements in the RSL. Please note, unless otherwise is stipulated in the RSL, all suppliers are required to follow the EU regulatory framework for Chemicals. In addition to the RSL, you also need to fulfil the requirement stated in the chapter Chemical Handling.

Sanctions for violation of chemical requirements as listed in the Supplier manual's Restricted Substances List and procedures: In case of claims Varner has the right to be fully compensated for financial losses and expenses due to a non-delivery clause with our final customers.

Chemical Testing

A test report performed by a Varner nominated laboratory may be requested. Supplier must follow the test programs for the different product groups. Workflow for testing you will find described in the test program in Appendix 6.

Varner reserves the right to cancel orders, in complete or in part, and claim or take other action if products or tests do not comply with our chemical requirements. The buying department reserves the right to ask for additional documentation showing the requirements have been respected and random controls may be carried.
A list of Varner nominated labs you will find in Appendix 7. Only Varner nominated lab can be used for testing.

Chemical testing might be exempted in special cases, if the supplier holds a full certification of Step, Oekotex, Nordic Ecolabel, Cradle to Cradle (Silver or above) or similar. Please contact Varner Quality Assurance Specialist for information, requirements, and procedure.

General Requirements for all materials

***REACH* (Registration, Evaluation, Authorization, and restriction of Chemicals)**
SVHC (Substance of Very High Concern) Products produced for Varner cannot contain more than 1000 mg/ kg of substances on the SVHC list. If substances are stated both in the Varner RSL and in the SVHC list, the Varner RSL requirements should be followed.

PBT, vPvB, CMR or ED
Substances defined as persistent, bio accumulative and toxic (**PBT**), very persistent and very bio accumulative (**vPvB**), carcinogenic, mutagenic, and toxic for reproduction (**CMR**), endocrine disruptors (**ED)** or equivalent concern but not yet regulated and specified in the RSL, cannot exceed 1000 mg/kg in a product. If a specific substance is stated both in Varner RSL and as PBT, vPvB, CMR or ED, the Varner requirements must be followed.

Highlighted Bans

Biocides including all antibacterial treatments on finished products are banned by Varner.
All PFAS in production are banned.
Mold Spores and mycelia of mold cannot be detected.
PVC is banned.
Flame retardants are banned**.**
If any questions, contact sustainability@varner.com

Legal background

REACH

As a Varner supplier, you are required to comply with the European Chemicals legislation called REACH that is in force since 1st of June 2007. REACH is an abbreviation for **R**egistration, **E**valuation, **A**uthorisation, and restrictions of **Ch**emicals.

The essence of REACH is to ensure a high level of safety for human health and environment, focused on substances in general and hazardous substances in particular, that are manufactured in EU, imported into EU and used within EU. It is the responsibility of all manufacturers, importers, and users of substances within EU to ensure that the substances they manufacture, import or use do not pose any risk to human health and environment.
REACH affects all EU-actors that professionally manufacture, import, sell, buy, distribute, or use chemicals as such and in articles.

Varner require that all our suppliers are prepared for REACH and that you follow updated information on the website of the European Chemicals Agency (ECHA), http://ECHA.europa.eu that is the European Authority for REACH on behalf of the European Commission.

Registration.
One of the requirements of REACH is that manufacturers of chemicals and importers of chemicals and articles have a duty to register substances. For importers of articles registration requirements apply to substances intentionally released from articles.

Duty to inform your customer on substances for authorization.
Since 28th of October 2008 all EU-actors that professionally manufacture, import, sell or distribute articles are legally obliged to inform their customer about the presence of Substances of Very high Concern (SVHC), (also called candidate substances) in articles they sell.
To find the latest list of SVHC we ask you to read this on ECHA's website,
https://echa.europa.eu/web/guest/candidate-list-table

It is your responsibility as a supplier to keep updated on the Candidate list of authorization, annex XIV of authorization substances and annex XVII of restricted substances.

The intentional use of any substances regulated in REACH legislation (substances for authorization from the Candidate list and annex XIV and additionally restricted substances in annex XVII) and POPs regulation is not allowed. If required in production for specific products, the intentional use of these substances must be agreed upon with Varner Quality Assurance team in advance. Residues in final products must not exceed legal limit or information duty level and Wastewater test reports shall be in compliance with ZDHC wastewater guidelines.

The full legal text of REACH is enclosed in the link below that include the current text of annex XIV and XVII, see link below:

REACH legislation

https://echa.europa.eu/regulations/reach/legislation

Annex XIV

Authorisation List - ECHA (europa.eu)

Annex XVII

Substances restricted under REACH - ECHA (europa.eu)

Stockholm Convention on Persistent Organic Pollutants (POPs)

Stockholm Convention on Persistent Organic Pollutants (http://chm.pops.int) is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs), addressed as the Stockholm Convention. In EU /EEA this international treaty is regulated in Regulation EU 2019/1021:

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02019R1021-20210315&from=EN

POPs are organic chemical substances, which remain intact in the environment for exceptionally long periods of time and are therefore unwanted.

Biocidal Product Regulation

The Biocidal Product Regulation (BPR, Regulation (EU) 528/2012, http://echa.europa.eu/regulations/biocidal-products-regulation/legislation) concerns the placing on the market and use of biocidal products, which are used to protect humans, animals, materials or articles against harmful organisms, like pests or bacteria, by the action of the active substances contained in the biocidal product.

The Biocidal Products Regulation (BPR) also sets rules for the use of articles treated with, or intentionally incorporating, one or more biocidal products.

Varner has a ban on biocidal treatments. Such treatments must not be applied to yarn, fabric or finished products.

Packaging material:

According to the Regulation on Packaging and Packaging Waste (EU) 2025/40 packaging materials shall not contain any chemical substances in violation with the regulation or other applicable chemical requirements within EU.

Products sold on the US market.

Suppliers that produce products for the Varner brand Beyond Medal shall also follow US federal and state laws including the Proposition 65, and make sure that the products comply with all requirements listed in Varner RSL including table 19. Resources on federal laws, Toxic Substances Control Act (TSCA), Consumer Product Safety Act (CPSA) Consumer Product Safety Improvement Act (CPSIA) and Federal Hazardous Substances Act (FHSA).
Proposition 65 can be found here: Proposition 65 in Plain Language - OEHHA (ca.gov)

Instruction for the 3rd party laboratory

All test reports must be uploaded and sent through the Interlink system. No manual TRF will be accepted.

Labs should always use the latest available version of the test method.

In the test report, always present the actual result of the analysis. State your specific limit of detection substance by substance. Please note that the reporting format should be < x mg/kg. If nothing is detected, note the detection limit of the instrument (i.e. < x mg/kg, not n/d).

Descriptions & Explanations

Definitions

CAS RN	Chemical abstract services registration number. CAS RN are given for specific defined substances.
++	The ++ sign shows that names and CAS number for each substance in this group are specified in Table 1-15.

Various	Is stated instead of CAS number, the substance has several substances and CAS numbers covered by the specification.
Limit of Detection (LOD) Limit of Quantification (LOQ)	The lowest concentration of a chemical that can be reliably detected (identified but not quantified accurately) by an analytical procedure. This can vary between different test laboratories. The lowest concentration of a chemical that can be reliably quantified (how much) by an analytical procedure.
Not Detected	Substance stated with “Not Detected” as a requirement cannot be found above the Detection Limit.
Banned	When a substance is defined as “Banned” this means that the substance cannot be used in production. Those substances cannot be present in the product over the Detection Limit.
Required Limit value	Limit value as agreed in the business sector and/or by legal requirements. Note that limit value in general is measured in the material of concern.

Relationship between units used by laboratories.

1000	mg/kg	equals	1000	ppm	(Parts per million)
1000	mg/kg	equals	1 000 000	ppb	(Parts per billion)
1000	mg/kg	equals	1 000 000	µg/kg	(Microgram per kilogram)
1000	mg/kg	equals	0,1	%	(by weight)

Symbols

> - Greater than
≥ - Greater than or equal to
< - Less than
≤ - Less than or equal to

Extensive List of Restricted Substances

The symbols below give an indication in which type of material the respective chemical is most likely used/ or present.

	**Textile**	Textile material, both natural and synthetic fibres
	**Leather**	Leather, both natural and leather imitation
	**Trims**	Metal, plastics etc. used in e.g., buckles, buttons, and zippers. Rubber and glue.
	**Packaging**	Paper, cardboard, plastic bags, tags, labels, plastic sleeves etc.
	**Jewellery**	Earrings and other body piercing items Necklaces, bracelets, chains, anklets, and finger/toe rings Brooches and cufflinks Wristwatches and wristwear, watch straps and tighteners Metal and/or embellished hair accessories (bobby pins, crowns/diadems, hair pin/clip, hair combs etc) Glass bead, metal beads, metal components and parts of jewellery and imitation jewellery articles

ALKYLPHENOL ETHOXYLATES (APEO) and derivatives			
Nonylphenol Ethoxylates (NPEO)	Various	Total content should not exceed 20 mg/kg	ISO 18254-1, -2 (textile), APEO EN ISO 21084 (textile & leather), AP Leather: ISO 18218-1, -2 (leather) LOQ: 10mg/kg (NPEO, OPEO) LOQ: 5mg/kg (NP, OP)
Octylphenol Ethoxylates (OPEO)	Various		
Nonylphenol (NP)	Various	Not detected during testing.	
Octylphenol (OP)	Various		

Legal background: Legal limit: NPEOs shall not be placed on the market in textile articles, in concentrations equal to or greater than 0.01 weight% of that textile article or of each part of the textile article. Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 46a. 0.1 weight% of NPEO as a substance or in mixtures with exceptions for textile and leather processing if certain methods are used. Norway restricts manufacture, import, export, sale, and use of octylphenol and octylphenol ethoxylates, and mixtures containing these substances, FOR 2004-06-01-922. 4-Nonylphenol, branched and linear (4-NP, various CAS RN), 4-Nonylphenol, branched and linear, ethoxylated (4-NPnEO, various CAS RN), 4-(1,1,3,3-tetramethylbutyl)phenol (4-tert-OP, CAS RN 140-66-9), 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (4-tert-OPnEO, UVCB substance, no CAS RN), 4-tert-butylphenol (CAS RN 98-54-4) and tris(4-nonylphenyl, branched and linear) phosphite (TNPP) (no CAS RN) are on the Candidate List (REACH). In France: The substances on the Candidate list as well as 4-tertpentylphenol (CAS RN 80-46-6), 4-heptylphenol, branched and linear (e.g. CAS RN 1987-50-4), and Reaction products of

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, trendy and linear (RP-HP) [with ≥ 0.1 % w/w 4-heptylphenol, branched and linear] are included under the AGEC legislation (LOI n° 2020-105). 4-NPnEO and 4-tert-OPnEO are also included in Annex XIV to REACH.

Dicumyl S			
Biocides[1]	++	Banned, Not detected during testing	Solvent Extraction followed by GC-MS
Permethrin Legal background: Permethrin is not on the active substance list for product-type 9 and thus not allowed to use in textiles, polymers and leather, according to the Biocidal Product Regulation (EU 528/2012).	52645-53-1	Banned, Not detected during testing	EN ISO 22517 (pesticide residues in leather) Test equipment: GC-MS, LC-MS. LOQ: 5mg/kg.
Silver and its compounds Legal background: Legal limit: No legal limits for silver compounds exist in textiles and leather. Some silver compounds are on the list of temporarily permitted existing biocides within PT9 (product type 9) that includes textiles, polymers, and leather, according to the Biocidal Product Regulation (EU 528/2012). Silver as such, silver as a nanomaterial (CAS RN 7440-22-4) and as reaction mass of titanium dioxide and silver chloride are not allowed as a biocidal active substance.	Silver (metal): 7440-22-4	Banned, Not detected during testing	Test equipment: ICP-MS, ICP-OES or AAS. LOQ: 10 mg/kg.
Trisubstituted tin organic compounds Legal Background: Legal Limit: 0.1% by weight. All tri-substituted organostannic compounds such as tributyltin (TBT) are restricted in articles in annex XVII of the Regulation (EC) No 1907/2006 (REACH), entry 20. The seven TBT compounds listed above are also included in the Rotterdam convention. Tributyltin oxide (TBTO) 56-35-9 and Dibutyltin dichloride (DBTC), 683-18-1 are listed on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).	++	Banned, Not detected during testing	EN ISO 22744-1, -2 (textiles) ISO 16179 Test equipment: GC-MS LOQ: 0.2 mg/kg
Triclosan and Triclocarban Legal Background: Triclosan is banned within PT9 (product type 9) that includes textiles, polymers and leather, according to the Biocidal Product Regulation 528/2012. Triclocarban is not on the active substance list for PT9 and thus not allowed to use in textiles, polymers and leather.	Triclosan: 3380-34-5, Triclocarban: 101-20-2	Banned, Not detected during testing	ISO 22992-2 (textile) EN 17134-1 (textile) Test equipment: GC-MS, LC-MS. LOQ: 10 mg/kg

[1] Table 1 Biocides

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
Zincpyrithion Legal background: Zincpyrithion is on the list of temporarily permitted existing biocides within PT9 (product type 9) that includes textiles, polymers and leather, according to the Biocidal Product Regulation (EU 528/2012).	13463-41-7	Banned, Not detected during testing		ICP-MS or ICP-OES via zinc analysis LOQ: 1000 mg/kg (100 mg/kg via Zinc)
Cu-HDO (Bis-(N-cyclohexyldiazeniumdioxy) – copper) Legal Background: Cu-HDO is banned within PT9 (product type 9) that includes textiles, polymers and leather, according to the Biocidal Product Regulation (EU 528/2012)	312600-89-8	Banned, Not detected during testing		ICP-MS or ICP-OES via copper analysis. LOQ: 50 mg/kg
Dimethyl fumarate (DMFu) Legal background: Legal limit: 0.00001% by weight (0.1 mg/kg) in articles or any parts thereof. Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 61.	624-49-7	Should not be detected during testing		EN 17130 (textile and textile material) ISO 16186 (footwear) GC-MS, LC-MS LOQ: 0.1 mg/kg.
Guanidine, N,N'''-1,6-hexanediylbis[N'-cyano-, polymer with 1,6-hexanediamine, hydrochloride (PHMB 1600; 1.8) Legal Background: PHMB is banned within PT9 (product type 9) that includes textiles, polymers and leather, according to the Biocidal Product Regulation (EU 528/2012).	27083-27-8, 32289-58-0, 1802181-67-4	Banned, Should not be detected during testing		LC-MS LOQ: 50 mg/kg
Carbendazim Legal background: Carbendazim is banned within PT9 (product type 9) that includes textiles, polymers and leather, according to the Biocidal Product Regulation (EU 528/2012).	10605-21-7	Banned, Should not be detected during testing		GC-MS, LC-MS LOQ: 50 mg/kg
Parabenes included Butyl 4-hydroxybenzoate (Butylparaben, Isobutyl 4-hydroxybenzoate) Legal background: Butyl 4-hydroxybenzoate (Butylparaben) and Isobutyl 4-hydroxybenzoate are on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).	94-26-8 4247-02-3 ++	Banned, Should not be detected during testing		GC-MS, LC-MS. LOQ: 100 mg/kg
Glutaral Legal background: Glutaral is on the Candidate (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).	111-30-8	Banned, Should not be detected during testing		LC-UV, GC-UV LOQ: 100ppm
Pentachlorphenol (PCP) and all isomers of Tetrachlorphenols (TeCP) Legal background: Legal limit: PCP and its salts and esters shall not occur. Pentachlorophenol and its salts and esters are listed in the Stockholm Convention on Persistent Organic	87-86-5 (PCP), 131-52-2 (PCP sodium salt), 935-95-5, 4901-51-3, 58-90-2 (the	Banned, Not Detected during testing		EN 17134-2 (textile) ISO 17070 (leather) LOQ: 0.1 mg/kg CEN/TR 14823 (wood). Detection

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
Pollutants (POPs) and banned in EU by the POPs Regulation (EU) No 2019/1021. Residues below 5 mg/kg in substances, mixtures, and articles are allowed to be placed on the market and used, as this is the amount that may be present as an impurity in an article. Pentachlorophenol is listed in the Rotterdam convention. In California: PCP is listed in Proposition 65. Safe Harbor Limit: NRSL 40 µg/day.	three isomers of TeCP)			limit 25 mg/kg EN ISO 15320 (Pulp, paper and board)
BISPHENOLS				
Bisphenol A; BPA (4,4'-isopropylidenediphenol)	80-05-7	Banned, Not detected during testing		ISO 11936 (leather) EN ISO 21135 (leather process chemicals) No standardized test method for textile available. LC-MS, GC-MS AFIRM Textile test method: For precipitation, draw the extract to another container and add methanol or acetonitrile. This keeps the extraction process consistent. Extraction: 1 g sample/20 mL THF, sonication for 60 minutes at 60° C, then add methanol or acetonitrile for precipitation prior to analysis with LC/MS. LOQ: 1 mg/kg for textiles LOQ: 2 mg/kg for leather
2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6			
Bisphenol B; (4,4'-(1-methylpropylidene)bisphenol)	77-40-7			
Bisphenol S; (4,4'-sulphonyldiphenol)	80-09-1			
Bisphenol F; (4,4′ -dihydroxydiphenylmethane)	620-92-8			
Bisphenol AF; 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1			
Legal Background: BPA, Bisphenol B, Bisphenol S, Bisphenol AF and 2,2-bis(4'-hydroxyphenyl)- 4-methylpentane are on the Candidate List (REACH). Bisphenol A (BPA) content in thermal paper (0.02% by weight), is restricted from January 2020 according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 66. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: BPA and BPS are listed in Proposition 65. Safe Harbor Limit for BPA: MADL 3 µg/day (dermal exposure from solid materials).				
C,C'-AZODI(FORMAMIDE) (ADCA)				
C,C'-azodi(formamide) (ADCA)	123-77-3	Banned, Not detected during testing		GC-MS, LC-MS LOQ: 200mg/kg
Legal Background: ADCA is on the Candidate List (REACH). In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105).				
CHLORINATED AROMATIC HYDROCARBONS; BENZENES, TOLUENES, NAPHTALENES & XYLENES [2]				

[2] Table 2 - Chlorinated aromatic hydrocarbons

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
Chlorinated benzenes	++	Total content should not exceed 1 mg/kg		EN 17137
Chlorinated naphthalenes	++			
Chlorinated toluenes	++			
Chloroxylenes	++			
				
FLAME RETARDANTS/PLASTICIZERS- CHLOROPARAFFINS				
Short-chain chlorinated paraffins, SCCPs (C10-C13)	85535-84-8	Banned		ISO 18219-1,-2 (leather) EN ISO 22818 (textiles) For short and medium chain paraffins LOQ: 100 mg/kg For long chain paraffins LOQ: 1000 mg/kg
Medium-chain chlorinated paraffins, MCCPs (C14-C17)	85535-85-9 198840-65-2 1372804-76-6	Banned. Not detected during testing.		
Long-chain chlorinated paraffins (C18 or longer)	85535-86-0			
Legal background: Legal limit: Shall not occur. Short-chain and medium-chain chloroparaffins are listed as POP in the Stockholm Convention on Persistent Organic Pollutants (POPs). SCCP is banned (0.15 % by weight in articles) in EU by Regulation (EU) No 2019/1021. Short-chain chloroparaffins (C10-C13) and Medium-chain chloroparaffins (C14-C17) are on the Candidate list (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Chloroparaffins are listed in Proposition 65. Safe Harbor Limit: NSRL 8 µg/day.				
				
FLAME RETARDANTS[3]				
Hexabromocyclododecan (HBCDD)	++	Banned, Not Detected during testing		EN ISO 17881-1 (textiles) GC-MS, LC-MS, GC-ECD LOQ: 20 mg/kg
Legal background: Legal limit: Shall not occur. Hexabromocyclododecane is listed as POP in the Stockholm Convention on Persistent Organic Pollutants (POPs) and is banned (75 ppm) in EU by Regulation (EU) No 2019/1021. Hexabromocyclododecane (HBCDD) and all major isomers are listed in both annex XIV and on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).				

[3] Table 7 – Flame retardants

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

FLAME RETARDANTS			
Bis(2-ethylhexyl) tetrabromophthalate (TBPH)	26040-51-7	Banned, Not Detected during testing	GC-MS, LC-MS, GC-ECD, (XRF to detect bromine) LOQ: 100mg/kg
Legal background: Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof is listed in the Candidate List (REACH).			

FLAME RETARDANTS			
Decabromodiphenylethane (DBDPE)	84852-53-9	Banned, Not Detected during testing	No standardized test method available. GC-MS, LC-MS, GC-ECD, (XRF to detect bromine). LOQ: 100 mg/kg
Legal background: DBDPE is listed on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).			

FLAME RETARDANTS[4]			
Polybrominated biphenyls (PBBs) and Polybrominated diphenyl ethers (PBDEs)	++	Banned, Not Detected during testing	EN ISO 17881-1 (textiles) EN 16377 for PBB (plastics) GS-MS, LC-MS, GC-ECD LOQ: 10 mg/kg
Legal background: Legal limit: Shall not occur. tetraBDE, pentaBDE, hexaBDE, heptaBDE and decaBDE (i.e. the main components in commercial Penta- Octa- and DecaBDE mixtures) and HBB are listed as POPs in the Stockholm Convention on Persistent Organic Pollutants (POPs) and are restricted by the POPs regulation (EU) No 2019/1021, Annex I (substances that are banned and not allowed in products. The maximum allowed concentration of unintentional trace contaminants (sum of tetra-, penta-, hexa-, hepta- and decaBDEs) is 10 mg/kg. For recycled materials the corresponding limit value is 350 mg/kg (and from Dec 30 2027: 200 mg/kg). OctaBDE, and PBBs, are restricted in entry 45 and entry 8 of Annex XVII to Regulation (EC)			

[4] Table 7 – Flame retardants

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

No 1907/2006 (REACH). The legal limit for PBBs in textile articles with skin contact is detection limit. The legal limit for OctaBDE in articles or in flame-retardant parts of articles is 0.1 % by weight. DecaBDE is on the Candidate List (REACH). PBBs are listed in the Rotterdam Convention. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Pentabromodiphenyl ether mixture DE-71 and polybrominated biphenyls and polychlorinated biphenyls are listed in Proposition 65. Safe Harbor Limits: NSRL PBB 0.02 µg/day, PCB 0.09 µg/day.

FLAME RETARDANTS Trisubstituted phosphates			
Trixylyl phosphate	Trixylyl phosphate: 25155-23-1	Banned, Not Detected during testing	EN ISO 17881-2 (textiles) Test equipment (for non-textile materials): GC-MS, LC-MS or GC-ECD LOQ: 5 mg/kg
Isopropylated phenyl phosphate (3:1)	68937-41-7		
Triphenyl phosphate (TPP)	115-86-6		
Tris(2-chlorethyl)phosphate (TCEP)	115-96-8		
Legal Background: Tris(2-chlorethyl) phosphate 115-96-8, Trixylyl phosphate 25155-23-1 and triphenyl phosphate 115-86-6 are on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).			

FLAME RETARDANTS/BIOCIDES- BORIC ACID, BORATE COMPOUNDS			
Boric acid, borate compounds[5]	++	Not detected.	1) AAS. 2) ICP-MS and ICP-OES LOQ: 25 mg/kg for individual compounds (10 mg/kg for total Boron content).
Legal background: Boric acid, disodium tetraborate anhydrous, disodium octaborate, tetraboron disodium heptaoxide, hydrate, sodium perborate; perboric acid, sodium salt, sodium peroxometaborate and Orthoboric acid, sodium salt are on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).			

[5] Table 15- Boric acid, Borate compounds

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

BANNED ARYLAMINES RELATED TO AZO DYES			
Azo Colorants – releasing following arylamines [6]	++	Azo dyes that are degradable to carcinogenic arylamines should not be present in products. Not Detected during testing	EN ISO 14362-1, -3 (textile) EN ISO 17234-1, -2 (leather) (These methods are specified in REACH Annex XVII, Appendix 10) LOQ: 5mg/kg (per each of the arylamine breakdown products).
Legal background: Legal limit in textile and leather articles: 0.003% by weight (30 mg/kg) per each of the arylamine breakdown products in the dyed parts of the article, which may come into direct and prolonged contact with the human skin or oral cavity. Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 43. 4-chloro-o-toluidinium chloride, 2-Naphthylammoniumacetate, 4-methoxy-m-phenylene diammonium sulphate, 2,4-diaminoanisole sulphate and 2,4,5-trimethylaniline hydrochloride have a restriction limit of 30 mg/kg in textiles (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. Several arylamines are on the Candidate List (REACH). The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). Azo colorants that may release carcinogenic amines mentioned in REACH, entry 43 are limited in PPE clothing and protective gloves. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Several arylamines are listed in Proposition 65. Safe Harbor Limit: NSRL 0.001-110 µg/day.			
CMR, Carcinogenic, Mutagenic, Reproductive toxic dyestuffs			
Carcinogenic Dyestuff [7]	++	Banned, Not Detected during testing	EN ISO 16373 (extractable dyestuffs) LOQ: 10mg/kg
Legal background: C.I. Solvent Blue 4, C.I. Basic Blue 26, C.I. Basic Violet 3, Michler's base (101-61-1), 4,4'-bis(dimethylamino) -4''-(methylamino)trityl alcohol (561-41-1), C.I. Direct Black 38 (1937-37-7), Reactive Brown 51 (EC 466-490-7) and C.I. Direct Red 28 (573-58-0) are on the Candidate List (REACH). Restrictions for use of substances, harmonised classified as CMR according to CLP, as substances, as constituents of other substances or in mixtures. These are found in REACH annex XVII, entry 28-30. C.I. Disperse Blue 1, C.I. Basic Red 9 and C.I. Basic Violet 3 with ≥ 0,1 % of Michler's ketone have a restriction limit of 50 mg/kg in textiles (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH). The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Several dyestuff are listed in Proposition 65. Safe Harbor Limit: NSRL 0.09-300 µg/day.			

[6] Table 3 – Banned arylamines derivated from azo dyes
[7] Table 4 – Carcinogenic colorants

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
ALLERGENIC DYES				
Allergenic Dyes [8]	Various, 21 dyes are listed in table 5 ++	Banned Not Detected during testing		DIN 54231 for textiles EN ISO 16373-1,-2,-3 (extractable dyestuff) LOQ: 15 mg/kg (per substance)
Legal Background: Legal limit: 0.1% by weight for Navy Blue, EC# 405-665-4 in chemical preparations used for colouring textile and leather articles in Annex XVII (entry 43) of Regulation (EC) No 1907/2006 (REACH). Eight disperse dyestuffs are banned in Germany.				
OTHER HAZARDOUS DYES				
Other Hazardous Dyes [9]	++	Banned Not Detected during testing		DIN 54231 (only disperse dyes) EN 16373-1,2,3 (all extractable dyes) LOD: 15 mg/kg (per substance)
FORMALDEHYDE				
Formaldehyde[10]	50-00-0	Not detected during testing	Textiles and leather: 75 mg/kg For GOTS Products: Not detected during testing	ISO 14184-1 (textiles) ISO 17226-1 (leather, HPLC analysis) ISO 17226-2 (leather, colorimetric analysis) ISO 17226-3 (leather, VOC analysis) ISO 27587 (leather, process auxiliaries) LOQ: 16 mg/kg
Required limit value: 20 mg/kg for textiles and leather goods for children under the age of two. 75 mg/kg for all clothing and related accessories, as well as textiles and leather goods that come into direct contact with the human skin to an extent similar to clothing. For USA: according to Federal Hazardous Substances Act at FHSA, Consumer products containing more than 1% formaldehyde must be labelled with a warning. Legal background: Formaldehyde has a restriction limit of 75 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear4[3] (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). Formaldehyde and formaldehyde-releasing substances are restricted in furniture and wood-based articled (max release 0,062 mg/m^3) as well as other articles (max release 0,080 mg/m^3), according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 77. German law				

[8] Table 5 – Allergenic dyes
[9] Table 6 – Other Hazardous Dyes
[10] Table 20- Formaldehyde legal requirements per country

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
(Bedarfsgegenständeverordnung and ChemikalienVerbotsverordnung); Products with formaldehyde content shall be labelled. Cleaning and finishing agents shall not contain formaldehyde above 0.2%. In France: Textiles not in direct skin contact: 400 ppm. Official Gazette of the French Republic, Notification 97/0141/F In California: Formaldehyde (gas) is listed in Proposition 65. Safe Harbor Limit: NSRL 40 µg/day.				
Formaldehyde -packaging	50-00-0	30 mg/kg (for paper)		EN1541

METAL & METAL COMPOUNDS- EXTRACTABLE METALS				
Antimony and its compounds	7440-36-0	5 mg/kg	30 mg/kg	EN ISO 16711-2
Barium and its compounds	7440-39-3	10 mg/kg		
Chromium and its compounds	7440-47-3	1 mg/kg	2 mg/kg	
Cobalt and its compounds	7440-48-4	1,0 mg/kg	4,0 mg/kg	
Copper and its compounds	7440-50-8	25,0 mg/kg	50,0 mg/kg	
Zinc and its compounds	7440-66-6	60 mg/kg		
Lead and its compounds	7439-92-1	0,5 mg/kg		

METAL & METAL COMPOUNDS- TOTAL HEAVY METALS			
Antimony and its compounds	7440-36-0	260 mg/kg	EN ISO 16711-1 Textiles ISO17072-2 Leather

METAL & METAL COMPOUNDS- TOTAL HEAVY METALS			
Total heavy metals **Cadmium, Lead, Chromium VI, and Mercury**	7440-43-9, 7439-92-1, 18540-29-9, 7439-97-6	Total content should not exceed 100 mg/kg	Total digestion, analysis by ICP-AES and / or ICP-MS (paper, paper product packaging)

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
				
METAL & METAL COMPOUNDS-TOTAL CHROMIUM VI				
Chromium (VI) and its compounds[11]	18540-29-9 ++	Not detected during testing		ISO 17075-1, -2 (leather). EN ISO 10195 (pre-aged leather condition A2) No standardized test method available for textiles. Test equipment: UV-VIS Spectrometer. LOQ: 3 mg/kg Metal chromium (Cr) may be analysed by: EN 16711-1 (total content in textiles and accessories) EN 16711-2 (extractable content in textile and accessories) ISO 17072-1 (extractable content in leather) ISO 17072-2 (total content in leather). LOQ: 10 mg/kg (total content), 0.1 mg/kg (extractable content). XRF screening for metal chromium. LOQ: 50 mg/kg
Legal background: Legal limit: 0.0003% by weight (3 mg/kg) for leather in direct skin contact. Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 47. Banned arylamines compounds have a restriction limit of 1 mg/kg (extractable chromium VI content) in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). Chromium VI is limited (3 ppm) in PPE standard for leather clothing and footwear. Chromium VI compounds on the Candidate list (REACH) are listed in Appendix 5. Several Chromium VI compounds are also included in REACH Annex XIV. The				

[11] Table 17 Chromium SVHC compounds

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

sum of concentration levels of lead, cadmium, mercury and chromium VI present in packaging or packaging components shall not exceed 100 mg/kg. Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Chromium VI is listed in Proposition 65. Safe Harbor Limit: NSRL 0.001 µg/day (inhalation), MADL 8.2 µg/day (oral).

METAL & METAL COMPOUNDS- NICKEL			
Nickel (Ni), in accessories	7440-02-0	<0,5 µg/cm²/week (articles in skin contact) <0,2 µg/cm²/week (pierced part)	Test method I: EN 12472:2020 and EN 1811:2023 (for coated items) EN 1811:2023 (for non-coated item) EN 16128:2025 (spectacle frames and sunglasses). (CEN methods specified in REACH Annex XVII, entry 27) Nickel screening test can be used to identify testing need according to above mentioned test methods LOQ: Jewelry pierced items: 0.02 µg/cm²/week LOQ: other items 0.1: µg/cm²/week
Legal background: 0.5 µg per cm² and week for products intended to come into direct and prolonged contact with the skin. 0.2 µg per cm² and week for piercing items. Annex XVII of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH, entry 27. Nickel release is limited (0.5 µg/cm2 per week) in PPE standard for metallic material in skin contact. In California: Metallic nickel is listed in Proposition 65.			

METAL & METAL COMPOUNDS- CADMIUM & CADMIUM SALTS TOTAL CONTENT			
Cadmium (Cd) and cadmium salts	7440-43-9	Not detected during testing	EN 16711-1 (total content in textiles and accessories). EN 16711-2 (extractable content in textiles and accessories). EN ISO 17072-1 (extractable content in leather). EN ISO 17072-2 (total content in leather). ISO 19050 (rubber)

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

			LOQ: 10 mg/kg (total content), (0.1 mg/kg (extractable content). Test equipment: XRF screening for metal cadmium. LOQ: 50 mg/kg

Legal background: Legal limit: 0.01% by weight (100 mg/kg) in articles produced from plastic material and in the paint of painted articles. Shall not be used in brazing fillers or in jewellery. Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 23. Cadmium, Cadmium oxide (1306-19-0), Cadmium sulphide (1306-23-6), Cadmium chloride (10108-64-2), Cadmium fluoride (7790-79-6), Cadmium sulphate (10124-36-4, 31119-53-6), Cadmium nitrate (10325-94-7), Cadmium carbonate (513-78-0) and Cadmium hydroxide (21041-95-2) are on the Candidate List (REACH). The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components shall not exceed 100 mg/kg Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste. Cadmium and its compounds have a restriction limit of 1 mg/kg (extractable content) in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Cadmium and cadmium compounds are listed in Proposition 65. Safe Harbor Limit: MADL cadmium 4.1 µg/day (oral). Cadmium is restricted in Denmark. Danish legal limits: 75 mg/kg. (Bekendgørelse nr. 858 af 5. September 2009 om forbud mod import salg og fremstilling af cadmiumholdige varer).

METAL & METAL COMPOUNDS- LEAD TOTAL CONTENT			
Lead (Pb) and lead salts[12]	7439-92-1	Not detected during testing for textile 100 mg/kg for lead as a metal in plastic and metallic accessories.	EN 16711-1 (total content in textiles and accessories) EN 16711-2 (extractable content in textile and accessories) EN 16711-3 (lead release from all materials in textile articles) ISO 17072-1 (extractable content in leather) ISO 17072-2 (total content in leather) ISO 19050 (rubber) LOQ: 10 mg/kg (total content), 0.1 mg/kg (extractable content) Test equipment: XRF screening for metal lead. LOQ: 50 mg/kg

Required limit value: 100 mg/kg for lead as a metal in plastic and metallic accessories. 1 mg/kg (extractable content) in clothing, related accessories, textiles other than clothing in skin contact, or footwear.

Legal background: Lead and lead salts are on the Candidate (REACH). SVHC lead compounds are listed in Table 17. The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components

[12] Table 17 SVHC Lead compounds

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

shall not exceed 100 mg/kg. Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste.

Lead salts are restricted in paint products (no restriction on painted articles) within the EU, entry 16 (lead carbonates) and 17 (lead sulphates). Lead and its compounds are restricted in jewellery articles and hair accessories within EU with a legal limit: 500 mg/kg (0.05%), entry 63. Lead and its compounds are restricted in articles that may be placed in the mouth by children with the legal limit 500 mg/kg (0.05%) [4], entry 63. Annex XVII of Regulation (EC) No 1907/2006 (REACH).

Lead and its compounds have a restriction limit of 1 mg/kg (extractable content) in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). Lead is restricted in Denmark. Danish legal limits: 100 mg/kg. (Bekendgørelse nr. 856 af 5. September 2009 om forbud mod import og salg af produkter, der indeholder bly). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Lead and lead compounds are listed in Proposition 65. Safe Harbor Limit: NRSL lead acetate 23 µg/day (oral), lead 15 µg/day (oral), lead phosphate 58 µg/day (oral), lead subacetate 41 µg/day (oral), MADL lead 0.5 µg/day.

[4] The limit does not apply if the rate of lead release is 0.05 µg/cm^2 per hour (equivalent to 0.05 µg/g/h) or lower. For coated articles, this release rate must not be exceeded for at least two years of use.

METAL & METAL COMPOUNDS- MERCURY TOTAL CONTENT			
Mercury	Mercury(metal): 7439-97-6 Phenylmercury neodecanoat: 26545-49-3 Phenylmercury octanoate: 13864-38-5 Phenylmercury 2-ethylhexanoate: 13302-00-6 Phenylmercury propionate: 103-27-5 Phenylmercury acetate: 62-38-4	Not detected during testing	EN 16711-1 (total content in textiles and accessories) EN 16711-2 (extractable content in textiles and accessories) ISO 17072-1 (extractable content in leather) ISO 17072-2 (total content in leather) ISO 19050 (rubber) LOQ: 10 mg/kg (total content), 0.02 mg/kg (extractable content). Test equipment: XRF screening for metal mercury. LOQ: 50 mg/kg

Legal background: Mercury compounds are restricted in impregnation of heavy-duty industrial textiles and yarn intended for their manufacture in Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 18. Phenyl mercury compounds are also restricted in entry 62 with a restriction limit of 0.01% = 100 mg/kg. Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury restricts the export, import, use, storage and manufacturing of mercury. Products containing mercury may not be placed on the Swedish market. Norway prohibits the manufacture, import, export, and sale of articles that contain mercury or mercury compounds (0.001% (10 ppm). Denmark prohibits the import, export and sale of articles and part of articles that contain mercury or mercury compounds (0.01% (100 ppm). Mercury is under restriction globally through the Minamata Convention. The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components shall not exceed 100 mg/kg. Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste. Mercury and its compounds are listed in the Rotterdam convention. In California: Mercury is listed in Proposition 65.

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

ARSENIC COMPOUNDS TOTAL CONTENT			
Arsenic compounds[13]	++	Not detected/Banned.	EN 16711-1 (total content in textiles and accessories). EN 16711-2 (extractable content and accessories). ISO 19050 (rubber) LOQ: 0,1 mg/kg
Legal background: Diarsenic Pentoxide; 1303-28-2, Diarsenic Trioxide; 1327-53-3, Triethyl arsenate; 15606-95-8, Arsenic acid; 7778-39-4, Calcium arsenate; 7778-44-1 are on the Candidate (REACH). As wood preservatives regulated in Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 19 (limit level; no intentionally added content). Arsenic and its compounds have a restriction limit of 1 mg/kg (extractable content) in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Inorganic arsenic compounds and inorganic arsenic oxides are listed in Proposition 65. Safe Harbor Limit for inorganic arsenic compounds: NSRL 0.06 µg/day (inhalation), 10 µg/day (except inhalation).			

CHLORINATED ORGANIC SOLVENTS			
Chlorinated Organic Solvents [14]	++	Not present is products, not used in processes.	No standardized test method for all substances available. Test equipment: GC-MS (headspace method may be used) or GC-ECD EN 17137 (textile) for chlorotoluenes and chlorobenzenes. LOQ: 0.5 mg/kg
Legal background: Manufacturers in EU are required to follow the Industry Emissions Directive (IED), 2010/75/EU. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: Several chlorinated solvents are listed in Proposition 65. Safe Harbor Limit: NSRL 3-50 µg/day.			

[13] Table 16 – Arsenic Compounds

[14] Table 8 – Chlorinated Organic Solvents

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

Solvent	CAS-RN	Legal framework	Legal requirement
Chloroform 1,1,2-trichloroethane 1,1,2,2-tetrachloroethane 1,1,1,2-tetrachloroethane Pentachloroethane 1,1-dichloroethylene 1,4-dichlorobenzene	67-66-3 79-00-5 79-34-5 630-20-6 76-01-7 75-35-4 106-46-7	Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 32-38.	Shall not be placed on the market, or used as substances, as constituents of other substances or in mixtures in concentrations equal to or greater than 0.1% by weight.
Carbon tetrachloride 1,1,1-trichloroethane	56-23-5 71-55-6	Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.	Shall not be produced, placed on the market, or used.
α,α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride α,α,α-trichlorotoluene; benzotrichloride α-chlorotoluene; benzyl chloride	5216-25-1 98-07-7 100-44-7	Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72.	1 mg/kg /in clothing, related accessories, t extiles other than clothing in skin contact, or footwear
Trichloroethylene	79-01-6	Listed in both annex XIV and in the Candidate List of Substances of Very High Concern for authorization and annex XIV in Regulation (EC) No 1907/2006 (REACH).	0.1% by weight in articles for information duty.
1,2,3-trichloropropane	96-18-4	Candidate List of Substances of Very High Concern for authorization in Regulation (EC) No 1907/2006 (REACH).	0.1% by weight in articles for information duty.

OTHER ORGANIC SOLVENTS			
N,N-Dimethylformamide (DMFa)	68-12-2	Should not be present in products in concentrations above 500 mg/kg (sum of DFMa, DMAC and NMP).	ISO/TR 16178 (footwear and footwear components) EN 16778 (protective gloves) ISO 16189 (footwear and footwear components) EN ISO 20686 (footwear and footwear components) EN 17131-1 (textile) Test equipment: GC-MS
Legal Background: DMFa is included on the Candidate list (REACH). DMFa have a restriction limit of 3000 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC)No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). DMFa has a limit value for the work environment under Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 76. The standard for protective gloves (PPE) limits DMFa (1000 ppm) in gloves containing PU. In France: The substances on			

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
the Candidate list are included in the AGEC legislation (LOI n° 2020-105). Restricted in polyurethane-coated work gloves in Germany. The maximum DMFa content must be less than 10 mg/kg glove material (TRGS 401). In California: DMFa is listed in Proposition 65.				LOQ: 50 mg/kg
N,N-dimethylacetamide (DMAC) Legal background: DMAC is included on the Candidate list (REACH). DMAC has a restriction limit of 3000 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). DMAC has a limit value for the work environment under Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 80. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In California: DMAC is listed in Proposition 65.	127-19-5	Should not be present in products in concentrations above 500 mg/kg (sum of DFMa, DMAC and NMP).		EN 17131-1 (textile) EN ISO 20686 (footwear and footwear components) GC-MS, LC-MS LOQ: 50 mg/kg
Pyrrolidones (NMP, NEP) Legal background: NMP is included on the Candidate list (REACH). NMP has a restriction limit of 3000 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). NMP and NEP have limit values for the working environment under Annex XVII of Regulation (EC) No 1907/2006 (REACH), entries 71 and 81. In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105). In California: NMP is listed in Proposition 65. Safe Harbor Limit: MADL 3200 µg/day (inhalation), 17000 µg/day (dermal).	872-50-4 2687-91-4	Should not be present in products in concentrations above 500 mg/kg (sum of DFMa, DMAC and NMP, NEP).		ISO 19070 (leather) EN 17131-1 (textile) EN ISO 20686 (footwear and footwear components) GC-MS, LC-MS LOQ: 50 mg/kg
Ethylene glycol monoethyl ether	110-80-5	Banned		GC-MS or GC-ECD LOQ: 5mg/kg

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
AROMATIC ORGANIC SOLVENTS				
Aromatic organic solvents	Various, 71-43-2	Not present in product		SNV 195 651, screening method. Panel odour test. Detection Limit: No odour. EN 17131-2 (benzene, textile) No standardized quantitative test method for all solvents available. GC-MS (EN 17137 (textile) can be used as reference for in-house method though it only applies to chlorobenzenes and chlorotoluenes). LOQ: 0.5 mg/kg (If odour is found use GC-MS Headspace technique for VOC screening)
Legal Background: Benzene (CAS RN 71-43-2) has a restriction limit of 5 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). Manufacturers in the EU are required to follow the Industry Emissions Directive "IED", 2010/75/EU. In California: Benzene is listed in Proposition 65. Safe Harbor Limit: NSRL 6.4 µg/day (oral), 13 µg/day (inhalation). MADL: 24 µg/day (oral), 49 µg/day (inhalation). France regulates certain mineral oils in ink for packaging and printed paper (the AGEC legislation LOI n° 2020-105). Limits: 1.0% for Aromatic hydrocarbons (MOAH) consisting of 1 to 7 aromatic rings by January 2023; 0.1% for MOAH consisting of 1 to 7 aromatic rings by January 2025 and 1 ppm MOAH compounds containing 3 to 7 aromatic rings by January 2025.				
				
ALIPHATIC ORGANIC SOLVENTS				
Aliphatic organic solvents	Various, 110-49-6	Not present in product		SNV 195 651, screening method. Panel odour test. EN ISO 20686 (footwear and footwear components) Detection Limit: No odour. No standardized quantitative test method available. GC-MS LOQ: 200 mg/kg

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
				(If odour is found use GC-MS Headspace technique for VOC screening)
Legal Background: 2-methoxyethyl acetate, CAS RN 110-49-6 is on the Candidate List (REACH). Manufacturers in EU are required to follow the Industrial emissions directive, 2010/75/EU. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). The legislation also regulates certain mineral oil in ink for packaging and printed paper. Limit: 0.1% for mineral oil saturated hydrocarbons (MOSH) consisting of 16 to 35 carbon atoms by January 2025.				
TIN ORGANIC COMPOUNDS (ORGANOSTANNIC COMPOUNDS)				
Tin organic compounds [15]	++	Banned		ISO 22744-1 (Textiles) EN ISO 16179 (footwear). Test equipment: GC-MS. LOQ: 0.2 mg/kg
Legal background: Legal Limit: 0.1% by weight Dioctyltin (DOT), dibutyltin (DBT) compounds and tri-substituted organostannic compounds such as tributyltin (TBT) shall not be used in articles. Annex XVII of the Regulation (EC) No 1907/2006 (REACH), entry 20. Tributyltin oxide (TBTO), 56-35-9, Dibutyltin dichloride (DBTC), 683-18-1, 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-distannatetradecanoate (DOTE), 15571-58-1 and reaction mass of DOTE and MOTE[1], Dibutylbis(pentane-2,4-dionato-O,O')tin, 22673-19-4 and Dioctyltin dilaurate and related substances[2] e.g. 3648-18-8 are on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). [1] reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2- [(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate [2] Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety				
DICUMYL PEROXIDE				
Dicumyl peroxide	80-43-3	Banned		GC-MS LOQ: 100 mg/kg
Legal background: Dicumyl peroxide is on the Candidate List (REACH). In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105).				
ETHYLENETHIOUREA				
Imidazolidine-2-thione (2-imidazoline-2-thiol) also called ethylenethiourea	96-45-7	Banned	LC-MS LOQ: 20mg/kg	

[15] Table 9 – Organotin Compounds

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
Legal background: Ethylenethiourea is listed on the Candidate list (REACH). In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105). In California: Ethylenethiourea is listed in Proposition 65. Safe Harbor Limit: NSRL 20 µg/day.				
				
ETHYLENEDIAMINE (EDA)				
Ethylenediamine (EDA)	107-15-3	Banned		GC-MS or LC-MS LOQ: 100 mg/kg
Legal background: Ethylenediamine is on the Candidate list (REACH). In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105).				
				
FORMAMIDE				
Formamide	75-12-7	Banned		EN ISO 20686 (footwear and footwear components) Solvent extraction. GC-MS or LC-MS LOQ: 50 mg/kg
Legal Background: Formamide is on the Candidate List (REACH). In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105). Formamide is restricted in puzzle mats in Belgium and France and is included in the Toy Safety Directive (limit value 200 mg/kg).				
				
HYDRAZINE				
Hydrazine	302-01-2, 7803-57-8	Banned		GC-MS or LC-MS LOQ: 200 mg/kg
Legal background: Hydrazine is listed on the Candidate list (REACH). In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105). In California: Hydrazine is listed in Proposition 65. Safe Harbor Limit: NSRL 0.04 µg/day.				
				
HYDROXYMETHYL ACRYLAMIDE				
N-(hydroxymethyl)acrylamide	924-42-5	Banned		GC-MS or LC-MS LOQ: 500 mg/kg
Legal background: Included in the Candidate list (REACH). In France: The substances on the Candidate list are included under the AGEC legislation (LOI n° 2020-105).				

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
				
MELAMINE				
Melamine	108-78-1	Banned		GC-MS or LC-MS LOQ: 200 mg/kg
Legal background: Included in the Candidate list (REACH). In France: The substances on the Candidate List are included under the AGEC legislation (LOI n° 2020-105).				
				
PESTICIDES				
Pesticides [16]	++	Total content should not exceed 1 mg/kg		Solvent Extraction followed by GC-MS or LC-MS
				
POLYCHLORINATED COMPOUNDS				
Polychlorinated biphenyls (PCB)	1336-36-3 ++	Total content should not exceed 0,5 mg/kg		Extraction followed by GC-MS or LC-MS
Polychlorinated terphenyls (PCTs)	61788-33-8 ++			
				
PER- AND POLYFLUORATED CHEMICALS (PFAS) - Varner has a ban for all PFAS substances				
Highly fluorinated carboxylic acids (PFOA and related substances) [17]	335-67-1	Banned, Should not be detected during testing		ASTM D7359 (total fluorine) ISO 20999 EN 17681-1 (2025) (Textiles and textile products. Note the 2025 version is significantly different from previous versions.) ISO 23702-1 (leather) LC-MS LOQ: 10 mg/kg (total fluorine), 25 µg/kg (for each FTOH substance), 10 µg/kg (for each PFAS substance)

[16] Table 10 - Pesticides

[17] Table 13- Per- and polyfluorinated chemicals

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
Legal background: Legal limit: Shall not occur. PFOA, its salts and related compounds, Long-chain perfluorocarboxylic acids (LC-PFCA, C9-C21), their salts, and related substances are listed in the Stockholm Convention on Persistent Organic Pollutants (POPs). PFOA its salts and related compounds are restricted in articles (0.025 mg/kg by weight of PFOA and its salts, and 1 mg/kg of a combination of PFOA-related substances) by the POPs Regulation (EU) No 2019/1021. PFHxA (undecafluorohexanoic acid), its salts and PFHxA-related substances are restricted in articles (25 ppb for the sum of PFHxA and its salts, or 1 000 ppb for the sum of PFHxA-related substances, measured in homogeneous material) annex XVII Regulation (EC) No 1907/2006 (REACH), entry 79. C9-C14 linear and/or branched perfluorocarboxylic acids (C9- C14 PFCAs) are restricted in articles, (25 ppb for the sum of C9-C14 PFCAs and their salts and 260 ppb for the sum C9-C14 PFCAs-related substances) annex XVII Regulation (EC) No 1907/2006 (REACH), entry 68. Perfluoroheptanoic acid and its salts as well as other PFCAs including their salts (sodium and ammonium) and precursors are on the Candidate (REACH). Examples of PFCAs are listed below: - (C7) Ammonium perfluoroheptanoate, 6130-43-4 - (C7) Potassium perfluoroheptanoate, 21049-36-5 - (C7) Perfluoroheptanoic acid, 375-85-9 - (C7) Sodium perfluoroheptanoate, 20109-59-5 - (C8) Pentadecafluorooctanoic acid (PFOA) and its ammonium salt (APFO), 335-67-1,3825-26-1, - (C9) Perfluorononan-1-oic-acid (PFNA) and its sodium and ammonium salts, 375-95-1, 21049-39-8, 4149-60-4, - (C10) Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts, 335-76-2, 3108-42-7, 3830-45-3, - (C11) Henicosafluoroundecanoic acid (PFUnA), 2058-94-8, - (C12) Tricosafluorododecanoic acid (PFDoA), 307-55-1, - (C13) Pentacosafluorotridecanoic acid (PFTrDA), 72629-94-8, - (C14) Heptacosafluorotetradecanoic acid (PFTA), 376-06-7. Declaration duty in Sweden to the Swedish Chemicals Agency for PFAS in chemical products that are deliberately added. Composition needs not to be specified but the information duty applies without any concentration limit. In France (LOI n° 2025-188): Manufacturing, import, export and placing on the market of PFAS in textile clothing and footwear for consumers and in waterproofing agents for textile clothing and footwear for consumers is prohibited with the following limit values: 25 ppb for individual PFAS substances (excluding polymer PFAS). 250 ppb for the sum of individual PFAS substances (excluding polymer PFAS). 50 ppm for all PFAS including polymers. The restriction does not apply to products within the scope of Regulation (EU) 2016/425 (PPE), military and civil security equipment, and also not to the recycled fraction of products with at least 20 % post-consumer recycled material. From January 2030, all textile products are covered by the restriction. In France (LOI n° 2020-105): The substances on the Candidate List are included in the AGEC legislation. In Denmark: From July 2026, clothing, footwear and waterproofing agents for clothing and footwear containing all PFAS substances (50 ppm total content of fluorine) and intended for consumers are prohibited to import and place on the market (BEK number 464). In California: PFOA and perfluorononanoic acid (PFNA) and its salts are listed in Proposition 65.				
Highly fluorinated sulphonic acids (PFOS and related substances) [18]	Example: 1763-23-1, 355-46-4, 29420-49-3, 220689-12-3	Banned, Should not be detected during testing		ASTM D7359 (total fluorine) ISO 20999 EN 17681-1 (2025) (Textiles and textile products. Note the 2025 version is significantly different from previous versions) ISO 23702-1 (leather and coated leather) LC-MS LOQ: 10 mg/kg (total fluorine), 10 µg/kg (for each PFAS substance)
Legal Background: Legal limit: Shall not occur. PFOS its salts and PFOS-related substances are listed in the Stockholm Convention on Persistent Organic Pollutants (POPs) and restricted in articles (0.025 mg/kg by weight of PFOS and its salts, and 1 mg/kg of a combination of PFOS-related substances) by the POPs Regulation (EU) No 2019/1021. Perfluorohexane-1-sulphonic acid (PFHxS) and its salts and related substances are listed in the Stockholm Convention on Persistent Organic Pollutants (POPs) and restricted in articles (0.025 mg/kg by weight of PFHxS and its salts, and 1 mg/kg of a combination of PFHxS-related substances) by the POPs Regulation (EU) No 2019/1021. Perfluorobutane sulphonic acid (PFBS) and its salts, Perfluorohexane-1-sulphonic acid and its salts (PFHxS), are on the Candidate (REACH).				

[18] Table 13- Per- and polyfluorinated chemicals

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
In France (LOI n° 2025-188): Manufacturing, import, export and placing on the market of PFAS in textile clothing and footwear for consumers and in waterproofing agents for textile clothing and footwear for consumers is prohibited with the following limit values: 25 ppb for individual PFAS substances. 250 ppb for the sum of individual PFAS substances. 50 ppm for all PFAS including polymers. The restriction does not apply to products within the scope of Regulation (EU) 2016/425 (PPE), military and civil security equipment, and also not to the recycled fraction of products with at least 20 % post-consumer recycled material. From January 2030, all textile products are covered by the restriction. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In Denmark: From July 2026, clothing, footwear and waterproofing agents for clothing and footwear containing all PFAS substances (50 ppm total content of fluorine) and intended for consumers are prohibited to import and place on the market (BEK number 464). In Sweden: Declaration duty in Sweden to the Swedish Chemicals Agency for PFAS that are deliberately added in chemical products. In California: Perfluorooctane sulfonic acid (PFOS) and its salts and transformation and degradation precursors are listed in Proposition 65.				
PFAS - Various substances	13252-13-6	Banned, Should not be detected during testing		ASTM D7359 (total fluorine) ISO 20999 EN 17681-1 (2025) (Textiles and textile products. Note that the 2025 version is significantly different from previous versions) LC-MS LOQ: 10 mg/kg (total fluorine), 25 µg/kg (for each FTOH substance), 10 µg/kg (for each PFAS substance)
Legal background: (3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) silanetriol is restricted in spray products (2 ppb) annex XVII Regulation (EC) No 1907/2006 (REACH), entry 73. HFPO-DA, its salts, and its acyl halides (CAS 13252-13-6, 67118- 55-2, 2062-98-8 and 62037-80-3) are on the Candidate List (REACH). In France (LOI n° 2025-188): Manufacturing, import, export and placing on the market of PFAS in textile clothing and footwear for consumers and in waterproofing agents for textile clothing and footwear for consumers is prohibited with the following limit values: 25 ppb for individual PFAS substances. 250 ppb for the sum of individual PFAS substances. 50 ppm for all PFAS including polymers. The restriction does not apply to products within the scope of Regulation (EU) 2016/425 (PPE), military and civil security equipment, and also not to the recycled fraction of products with at least 20 % post-consumer recycled material. From January 2030, all textile products are covered by the restriction. In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). In Denmark: From July 2026, clothing, footwear and waterproofing agents for clothing and footwear containing all PFAS substances (50 ppm total content of fluorine) and intended for consumers are prohibited to import and place on the market (BEK number 464). In Sweden: Declaration duty in Sweden to the Swedish Chemicals Agency for PFAS that are deliberately added in chemical products.				
PHTHALATES ESTHERS				
Phthalates [19]	++	Banned		EN ISO 14389 (textiles, paper, paper product packaging)

[19] Table 11 - Phthalates

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
				ISO 16181-1, 2 (footwear) GC-MS, LC-MS LOQ: 50 mg/kg
Legal Background: Annex XVII of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH) addresses the following legal limits: 0.1% by weight of the plasticized material in all articles for the sum of DEHP, DBP, BBP and DIBP, entry 51. 0.1% by weight in toys and childcare articles which can be placed in the mouth for DINP, DIDP and DNOP, entry 52. DIHP, DMEP, DIPP, DPP and DnHP have a restriction limit of 1000 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. This limit applies to each substance individually or in combination with other restricted phthalates that are classified as CMR substances. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). Phthalate ester substances listed in found in Annex XIV, the Candidate List (REACH) and/or the French AGEC legislation (LOI n° 2020-105) in Appendix 8. All phthalates in toys and childcare articles for children aged 0-3 years are restricted (0.05%) in Denmark (BEK nr 855). In California: BBP, DINP, DEHP, DBP, DnHP and DIDP are listed in Proposition 65. Safe Harbor Limits: NSRL BBP 1200 µg/day (oral), NSRL DINP 146 µg/day. NSRL DEHP 310 µg/day (oral), MADL DBP 8.7 µg/day, MADL DnHP 2200 µg/day (oral), MADL DIDP 2200 µg/day.				
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)				
PAH [20]	++	<0,5 mg/kg for each PAH.	<1 mg/kg for each PAH.	AfPS GS 2019-01 PAK ISO/TS 16190 (footwear) EN 17132 (textile) LOQ: 0.2 mg/kg
Legal background: Eight PAHs are listed in annex XVII, entry 50 of the Regulation (EC) No 1907/2006 (REACH). Rubber and plastic materials in skin contact shall not include any of those eight PAHs in amounts higher than 1 mg/kg. For materials in toys or childcare articles the limit value is 0.5 mg/kg. Eight PAHs are listed in annex XVII, entry 72 (CMR fast track) of the Regulation (EC) No 1907/2006 (REACH), with a restriction limit of 1 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear. Ten PAHs are included on the Candidate list REACH). In France: The substances on the Candidate list are included in the AGEC legislation (LOI n° 2020-105). The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). The voluntary German GS standard that most products in the German market follows, has requirements for 15 PAHs. In California: Several PAH are listed in Proposition 65. Safe Harbor Limit: NSRL 0.033-0.35 µg/day.				
POLYVINYLCHLORIDE (PVC) – Total ban				
Polyvinylchloride (PVC)	9002-86-2	Banned		FTIR
Polyvinylidenchloride (PVDC)	9002-85-1			
QUATERNARY AMMONIUM SALTS				
Dihydrogenated tallowdimethyl ammouniumchloride (DHTDMAC)	61789-80-8	Banned in production		Solvent extraction LC-MS-MS

[20] Table 12 – Polycyclic Aromatic Hydrocarbons-PAH

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
Ditallowdimethyl ammonium chloride (DTDMAC)	68783-78-8			LOQ 10mg/kg
Distearyldimethyl ammoniumchloride (DODMAC; DSDMAC)	107-64-2			
UV STABILIZERS				
UV stabilizers[21]	++	Not detected during testing		ISO 24040:2022 (benzotriazoles) LC-MS, GC-MS or GC-ECD LOQ: 50 mg/kg (benzotriazoles except UV-328) LOQ: 100 mg/kg (3-BC and DBMC) LOQ: 0.1 mg/kg (UV-328)
Legal background: UV-328 is listed as POP in the Stockholm Convention on Persistent Organic Pollutants (POPs) with a limit value of 100 mg/kg from 4 August 2025, 10 mg/kg from 4 August 2027 and 1 mg/kg from 4 August 2029. POPs Regulation (EU) No 2019/1021. UV-320, UV-326, UV-327, UV-329, UV-350, 3-BC and DBMC are on the Candidate List (REACH). In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105).				
NITROSAMINES				
Nitrosamines (Relevant for rubber and latex with skin contact)	Various	Not detected < 1.0 µg/dm²		EN 12868 or EN 71-12 EN ISO 19577:2019 with LC/MS/MS verification if positive
QUINOLINE				
Quinoline	91-22-5	50 mg/kg		EN ISO 13144 GC-MS, LC-MS LOQ: 15 mg/kg
Legal background: Quinoline has a restriction limit of 50 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 72. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE). In California: Quinoline is listed in Proposition 65.				

[21] Table 14- UV Stabilizers

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
SILOXANES				
Octamethyltrisiloxane (L3)	107-51-7	100 mg/kg		EN ISO 23649 (leather tanning industry) Internal methods can be suggested. GC-MS LOQ: 100 mg/kg
Decamethyltetrasiloxane (L4)	141-62-8			
Octamethylcyclotetrasiloxane (D4)	556-67-2			
Decamethylcyclopentasiloxane (D5)	541-02-6			
Dodecamethylcyclohexasiloxane (D6)	540-97-6			
Legal Background: 1000 mg/kg (0.1% by weight). L3, L4, D4, D5 and D6 are on the Candidate List (REACH) In France: The substances on the Candidate List are included in the AGEC legislation (LOI n° 2020-105). D4, D5 and D6 shall not be used as a solvent for the dry cleaning of textiles, leather and fur (REACH, entry 70). The restriction applies after 6 June 2026 for D4 and D6, and after 6 June 2034 for D5.				
2-METHOXYETHYL ACETATE				
2- methoxyethyl acetate	110-49-6	Not detected		Solvent extraction. GC-MS, LC-MS LOQ: 100 mg/kg
Legal Background: 2-methoxyethyl acetate is listed on the Candidate list of Substances of Very High Concern (SVHC) for the authorization of the Regulation (EC) No 1907/2006 (REACH)				
3-BENZYLIDENE CAMPHOR (1,7,7- trimethyl-3-(phenylmethylene)bicyclo[2.2.1] heptan-2-one				
3-Benzylidene camphor (1,7,7- trimethyl-3-(phenylmethylene)bicyclo[2.2.1] heptan-2-one)	15087-24-8	Not detected		LC-MS, GC-MS LOQ: 100 mg/kg
Legal Background: 1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one is listed on the Candidate List of Substances of Very High Concern for authorization of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH).				
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol (DBMC)				
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol (DBMC)	119-47-1	Not detected		LC and GC-MS LOQ: 100 mg/kg
Legal Background: 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol is listed on the Candidate list of Substances of Very High Concern (SVHC) for the authorization of the Regulation (EC) No 1907/2006 of the European Parliament of the Council (REACH).				

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	

pH VALUE	
Clothing and textiles for babies or that come in direct contact with skin, or for all GOTS products: pH 4,0-7,5 Clothing and textiles that do not come into direct contact with skin: pH 4,0-8,5 Leather products: pH 3,5-7,0 Down: 6,6 – 8,0	ISO 3071 (textiles) ISO 4045 (leather) Test equipment: pH meter. Accuracy: 0.2 pH units.
Legal Background: None. A pH higher than 10 or lower than 3 can cause skin irritation.	

Biocidal Agents

General information Biocidal agents are widely used in textile and leather production, both as process chemicals to prohibit growth of bacteria or mold in materials and liquids during production, and as product-related chemicals (e.g. anti-odor and anti-moth treatment). Articles at the EU market can have biocidal treatment ONLY IF that biocide is approved for the specific use (as regulated in the Biocidal product regulation, BPR (EU 528/2012)). Some biocides are additionally regulated in the REACH regulation or in the POPs regulation.

BIOCIDAL AGENTS			
Biocidal agents[22]	++	Banned	Various for different biocides, incl.: ISO 16186 (DMFu in footwear) SS-EN 17130 (DMFu in textile and textile material) EN 17134-2 (PCP in textile at LOQ 0.1 mg/kg) ISO 17070 (PCP in leather at LOQ 0.1 mg/kg) XP G 08-015 (French standard method for PCP in textiles at LOQ 0.1 mg/kg). CEN/TR 14823 (PCP in wood) at detection limit 25 mg/kg EN ISO 15320

[22] Table 21- Examples of non-approved Biocidal agents

FAMILY OF CHEMICAL SUBSTANCES	CAS No	LIMIT		TEST METHODS
		Children <3 yrs.	Adults & Children >3 yrs.	
				(PCP in pulp, paper and board) EN ISO 22517 (Permethrin in leather) EN ISO 22744-1, -2 (Trisubstituted tin organic compounds in textiles) ISO 16179 (Trisubstituted tin organic compounds)
Legal Background: Only approved biocides are allowed in the EU and in treated articles on the EU market (the Biocidal product regulation, BPR EU 528/2012). The approval status for the same chemical substance often varies for the products within our scope. Read about approved biocides at the Chemicals group webpage. PCP and its salts and esters are listed in the Stockholm Convention on Persistent Organic Pollutants (POPs) and banned (5 mg/kg) in EU by the POPs Regulation (EU) No 2019/1021. DMFu is restricted in Annex XVII of Regulation (EC) No 1907/2006 (REACH), entry 61 to 0.00001 % by weight (0.1 mg/kg) in articles or any parts of articles. All trisubstituted tin organic compounds such as tributyltin (TBT) are restricted to 0.1 % by weight in articles in annex XVII of the Regulation (EC) No 1907/2006 (REACH), entry 20. Glutaral and Tributyltin oxide (TBTO) are listed on the Candidate List (REACH). In France: The substances on the REACH Candidate List are included in the AGEC legislation (LOI n° 2020-105). Seven TBT compounds and Pentachlorophenol are listed in the Rotterdam convention. In California: PCP is listed in Proposition 65. Safe Harbor Limit: NRSL 40 µg/day.				

Tables – Chemical Substances

Table 1

BIOCIDES	CAS NO
Ethyltrianol	107534-96-3
1,2-benzisothiazol 3(2H)one	2634-33-5
1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3	60207-90-1
2-bromo-2-nitropropane-1,3 diol	52-51-7
2-octyl-2H-isothiazol-3-one	26530-20-1
Aluminum sodium silica silver complex	130328-18-6
Silver Zinc Zeolite	130328-20-0
Chitosan	9012-76-4
Chlorocresol	59-50-7
Disodium tetraborate, anhydrous	1330-43-4, 12179-04-3, 1303-96-4
Permethrin	52645-53-1
Silver chloride	7783-90-6
Silver sodium hydrogen zirconium	422-570-3
Silver-zinc-aluminium-borfosfatglas	398477-47-9
Sodium 2-biphenylate	132-27-4
Sodium methyldithiocarbamate	137-42-8
Sulphuryl difluoride	2699-79-8
TCMTB	21564-17-0
Thiabendazole	148-79-8
Thiram	137-26-8
Triclosan	3380-34-5
Tributyltin chloride	1461-22-9
Tributyltin fluoride	1983-10-4
Tributyltin methacrylate	2155-70-6
Tributyltin benzoate	4342-36-3
Tributyltin linoleate	24124-25-2
Tributyltin naphthenate	85409-17-2
Cu-HDO (Bis-(N-cyclohexyldiazeniumdioxy) –copper)	312600-89-8
Silver complexes in nano size (Ag +)|	
Guanidine, N,N'''-1,6-hexanediylbis[N'-cyano-, polymer with 1,6-hexanediamine, hydrochloride (PHMB 1600; 1.8)	27083-27-8, 32289-58-0

Table 2

CHLORINATED AROMATIC HYDROCARBONS	CAS NO
1,2-Dichlorobenzene	95-50-1
1,2-Dichlorobenzene-D4	2199-69-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Trichlorobenzenes	12002-48-1
1,2,4-Trichlorobenzene	120-82-1
1,2,3-Trichlorobenzene	87-61-6
1,3,5-Trichlorobenzene	108-70-3
1,2,3,4-Tetrachlorobenzen	634-66-2
1,2,3,5- Tetrachlorobenzene	634-90-2
1,24,5- Tetrachlorobenzene	95-94-3
Hexachlorobenzenes	118-74-1
Pentachlorobenzenes	608-93-5

Monochlorobenzenes	108-90-7
Dichloromethylbenzene	98-87-3
2,4,5-Trichlorotoluene	6639-30-1
Dichlorotoluenes	29797-40-8
2,6-Dichlorotoluene	118-69-4
3,4-Dichlorotoluene	95-75-0
2,4-Dichlorotoluene	95-73-8
a,2,6-trichlorotoluene	2014-83-7
a,a,2,6- tetrachlorotoluene	81-19-6
a,a,a,4-tetrachlorotoluene	5216-25-1
2-Chlorotoluene	95-49-8
3-Chlorotoluene	108-41-8
4-Chlorotoluene	106-43-4
2,3,4,5,6-Pentachlorotoluene	877-11-2
Tetrachloroethylene	127-18-4
a,o-Dichlorotoluene	611-19-8
a,p-Dichlorotoluene	104-83-6
α,α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride	5216-25 1
α,α,α-trichlorotoluene;benzotrichloride	98-07-7
α-chlorotoluene; benzyl chloride	100-44-7
3,5- Dichlorotoulene	2518-47-4
2,3,5-Trichlorotoulene	56961-86-6
3,4,5- Tricholorotoulene	21472-86-6
2,3,4,6-Tetrachlorotoulene	875-40-1
2,3-Dichlorotoulene	32768-54-0
2,5-Dichlorotoulene	19398-61-9
2,3,4-Trichlorotoulene	7359-72-0
2,3,6-Trichlorotoulene	2077-46-5
2,4,6-Trichlorotoulene	23749-65-7
2,3,4,5-Tetrachlorotoulene	1006-31-1
Tetrachlortoluol	29733-70-8
Dichlorobenzened	25321-22-6
Tetrachlorobenzenes	12408-10-5
3,5- Dichlorotoulene	2518-47-4

Table 3

Arylamines listed in Annex XVII, the Candidate List of Substances of Very High Concern for authorization of Regulation (EC) No 1907/2006 (REACH) and/or the French AGEC legislation (LOI n° 2020-105).

BANNED ARYLAMINES	CAS NO	CANDIDATE LIST AND AGEC	ANNEX XVII, ENTRY 43	ANNEX XVII, ENTRY 72
4,4-Methylene-bis[2-chloro-aniline]	101-14 - 4	x	x	
4,4-Methylenedianiline	101-7 7- 9	x	x	
4,4'-oxydianiline	101-80-4	x	x	
4-chloroaniline	106-47-8		x	
o-Dianisidine	119-90-4		x	
4,4'-bi-o-toluidine	119 - 9 3 -7		x	
p-Cresidine	120 -71-8	x	x	
2,4,5-trimethylaniline	137-17-7		x	
4,4'-thiodianiline	13 9 - 6 5 -1		x	
4-Aminoazobenzene	60-09-3	x	x	
4-methoxy-m-phenylenediamine	615-05-4		x	
4,4-Methylenedi-o-toluidine	838-88-0	x	x	
o-Anisidine	90-04-0	x	x	

2-Naphthylamine	91-59-8		x	
3,3-Dichlorobenzidine	91-94-1		x	
Biphenyl-4-ylamine	9 2- 67-1	x	x	
Benzidine	92-87-5		x	
o-Toluidine	95-53-4	x	x	
4-Chloro-o-toluidine	95-69-2		x	
4-methyl-m-phenylenediamine	95-80-7	x	x	
o-Aminoazotoluene	97- 5 6 - 3	x	x	
5-Nitro-o-toluidine	99-55-8		x	
4-chloro-o-toluidinium chloride	3165-93-3			x
2-Naphthylammoniumacetate	553-00-4			x
4-methoxy-m-phenylene diammo-nium sulphate; 2,4-diaminoanisole sulphate	39156 -41-7			x
2,4,5-trimethylaniline hydrochloride	21436-97-5			x

Table 4

CMR dyes listed in Annex XVII or the Candidate List of Substances of Very High Concern (SVHC) for authorization of Regulation (EC) No 1907/2006 (REACH) and/or the French AGEC legislation (LOI n° 2020-105).

CARCINOGENIC, MUTAGENIC AND/OR REPRODUCTION TOXIC DYES	CAS NO	Candidate list and AGEC	Annex XVII, Entry 72
C.I. Acid Red 26*	3761-53-3		
C.I. Basic Blue 26	2580-56-5	X	
C.I. Basic Red 9	569-61-9		X
C.I. Basic Violet 14	632-99-5		
C.I. Basic Violet 3 with at least 0.1 % of Michler's ketone	548-62-9	X	X
Michler's base	101-61-1	X	
C.I. Direct Blue 6*	2602-46-2		
C.I. Direct Red 28*	573-58-0	X	
C.I. Direct Black 38*	1937-37-7, 220970-37-6	X	
C.I. Direct Brown 95*	16071-86-6		
C.I. Disperse Blue 1	2475-45-8		X
C.I. Disperse Yellow 3	2832-40-8		
C.I. Disperse Orange 11 and C.I. Solvent Orange 11	82-28-0		
C.I. Disperse Orange 149*	85136-74-9, 151126-94-2		
C.I. Solvent Blue 4	6786-83-0*	X	
C.I. Reactive Brown 51	466-490-7 EC	X	
4,4'-bis(dimethylamino)-4"-(methylamino)trityl alcohol	561-41-1*	X	

*The dye can degrade and for a hazardous arylamine. Please, see section 'Banned arylamines related to azodyes' and Appendix 2.

Table 5

ALLERGENIC DYESTUFFS AND NAVY BLUE (BANNED MORDANT DYE)	CAS NO
C.I. Disperse Blue 1*	2475-45-8
C.I. Disperse Blue 3	2475-46-9
C.I. Disperse Blue 7	3179-90-6
C.I. Disperse Blue 26	3860-63-7, 100357-99-1, 13324-23-7
C.I. Disperse Blue 35*	12222-75-2

C.I. Disperse Blue 102	12222-97-8
C.I. Disperse Blue 106*	12223-01-7, 68516-81-4
C.I. Disperse Blue 124*	61951-51-7
C.I. Disperse Brown 1	23355-64-8
C.I. Disperse Orange 1	2581-69-3
C.I. Disperse Orange 3*	730-40-5
C.I. Disperse Orange 37/59/76*	13301-61-6, 12223-33-5, 51811-42-8
C.I. Disperse Orange 149	85136-74-9
C.I. Disperse Red 1*	2872-52-8
C.I. Disperse Red 11	2872-48-2
C.I. Disperse Red 17	3179-89-3
C.I. Disperse Yellow 1	119-15-3
C.I. Disperse Yellow 3*	2832-40-8
C.I. Disperse Yellow 9	6373-73-5
C.I. Disperse Yellow 39	12236-29-2
C.I. Disperse Yellow 49	54824-37-2, 6858-49-7
Navy blue	405-665-4 (EC #)

*Disperse dyes banned in Germany

Table 6

OTHER HAZARDOUS DYES	CAS NO
C.I. Acid Red 5	5858-63-9
C.I. Basic Green 4	569-64-2, 18015-764
C.I. Basic Red 46	62163-53-5, 12221-69-1
C.I. Disperse Yellow 23	6250-23-3
Navy Blue	118685-33-9
4,4''''-bis(dimethylamino)benzophenone	90-94-8
Carbon Black or Pigment black 7	1333-86-4

Table 7

This list is non-exhaustive and serves as a reference only. The substances mentioned are provided as examples of restricted flame retardants. Please note that restrictions apply to all flame retardants, not only those explicitly listed.

FLAME RETARDANTS	CAS NO
2,2-Bis(bromomethyl)-1,3-propanediol 2- Propanol, 1-chloro-, phosphate (3:1) (TCPP)	3296-90-0 13674-84-5
Antimony(III) oxide	1309-64-4
Bis(2,3-dibromopropyl)phosphate	5412-25-9
Dimethyl methylphosphonate (DMMP)	756-79-6
hexabromobiphenyl (HBB, main component in commercial PBB mixtures)	36355-01-8
Hexabromocyclododecane (HBCDD)	3194-55-6, 25637-99-4, 134237-50-6, 134237-51-7, 134237-52-8
Polybrominated diphenyl ether (PBDE)	Various
Phosphoric acid, methylphenyl	26444-49-5
Phosphonium tetrakis (hydroxymethyl)-chloride	124-64-1
Phosphonium tetrakis(hydroxymethyl)-sulphate (2:1)salt	55566-30-8
Phosphoric acid, (1,1-dimethylethyl)phenyl diphenylester	56803-37-3
Phosphoric acid, 2,2-bis(chloromethyl)-1,3propanediyl tetrakis(2chlorethyl)ester	38051-10-4

Polybrominated biphenyls (PBBs)	59536-65-1 (commercial mixture, consists of several PBBs)
Tetrabromobisphenol A (TBBP A)	79-94-7
Triallyl phosphate	1623-19-4
Tricresyl phosphate (TCP)	1330-78-5
Tri-o-cresyl phosphate	78-30-8
Tris(1,3-dichloroisopropyl)phosphate(TDCP)	13674-87-8
Triphenyl phosphate (TPhP)	115-86-6
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8
Pentabromodiphenyl ether (pentaBDE	e.g. 32534-81-9, 60348-60-9
Octabromodiphenyl ether (octaBDE	e.g. 32536-52-0
Decabromodiphenyl ether (decaBDE)	1163-19-5
Tetrabromodiphenyl ether (tetraBDE)	e.g. 5436-43-1
Heptabromodiphenyl ether (heptaBDE):	e.g. 207122-16-5, 446255-22-7
Hexabromodiphenyl ether (hexaBDE):	e.g. 68631-49-2, 207122-15-4
Dechlorane Plus (DP)	13560-89-9 and others

Table 8

CHLORINATED ORGANIC SOLVENTS & OTHERS	CAS NO
Carbon tetrachloride/ tetrachloromethane	56-23-5
Chloroform	67-66-3
1,1-Dichloroethene	75-35-4
Ethylene glycol monoethyl ether	110-80-5
n-Hexane	110-54-3
N-Methyl-2-pyrrodone (NMP)	872-50-4
Methyl ethyl ketone (MEK)	78-93-3
N,N-dimethylacetamide (DMAC)	127-19-5
Pentachloroethane	76-01-7
Phenol	108-95-2
Tetrachloroethane (PERC)	127-18-4
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-00-5
Tricolorethylene (TCE)	79-01-6
1,2,3- Trichloropropane	96-18-4
Toluene	108-88-3
1,4- dichlorobenzene	106-46-7

Table 9

ORGANOTIN COMPOUNDS	CAS NO	NO OF CARBONS
Bis(tributyltin)oxide (TBTO)	56-35-9	
Dibutyltin (DBT) and dibutyltin compounds	Various	
Dioctyltin (DOT) and dioctyltin compounds	Various	
Dibutyltin dichloride (DBTC)	683-18-1	
Monobutylin (MBT) compounds	Various	
Monooctylin (MOT) compounds	Various	
Tributyltin (TBT) compounds	Various	
Tricyclohexyltin (TCyHT) compounds	Various	
Trioctyltin (TOT) compounds	Various	
Tripropyltin (TPT) compounds	Various	
Triphenyltin (TPhT) and triphenyltin compounds	Various	
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	

Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	Various	
reaction mass of DOTE and MOTE 2, Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	
R = oxide (DBTO)	818-08-6	0
R = acetate	1067-33-0	2
R = butoxide	3349-36-8	4
R = metylmaleate	15546-11-9	5
R = pentandionate	22673-19-4	5
R = octanoate	4731-77-5	8
R = isoocanoate	85702-74-5	8
R = (monobutyl)maleate	15546-16-4	8
R = 2-etylhexanoate	2781-10-4	8
R = laurate	77-58-7	12
R = palmitate	13323-63-2	16
R = stearate	5847-55-2	18
R = oleate	13323-62-1	18
R = linolenate	85391-79-3	
R = linolenate	95873-60-2	18

Table 10

PESTICIDES	CAS NO
2,4-D	94-75-7
Cypermethrin	52315-07-8
Aldrine	309-00-2
α-Hexachlorocyclohexane	319-84-6
β- Hexachlorocyclohexane	319-85-7
δ- Hexachlorocyclohexane	319-86-8
Azinophosethyl	2642-71-9
Azinophosmethyl	86-50-0
Bromophos-ethyl	4824-78-6
Captafol	2425-06-1
Carbaryl	63-25-2
Chlordane	57-74-9
Chlordimeform	6164-98-3
Chlordimeform hydrochloride	19750-95-9
Chlorfenvinphos	470-90-6
Chlorobenzilate	510-15-6
2,4,5-T	93-76-5
Chloropicrin	76-06-2
Coumaphos	56-72-4
Cyfluthrin	68359-37-5
Cyhalothrin	91465-08-6
2,4-DDD	53-19-0
4,4'-DDD	72-54-8
2,4-DDE	3424-82-6
4,4-DDE	72-55-9
2,4-DDT	789-02-6
4.4-DDT	50-29-3
DEF	78-48-8
Deltamethrin	52918-63-5
Diazinon	333-41-5
Dibromochloropropane (DBCP)	96-12-08
Dichlofenthion	97-17-6

Dichlorprop	120-36-5
Dieldrin	60-57-1
Dicrotophos	141-66-2
Diflubenzuron	35367-38-5
Dimethoate	60-51-5
Dinoseb and salts	88-85-7
Disulfiram	97-77-8
DTTB-(Timiperone)	57648-21-12
Endosulfan	115-29-7
Endosulfan II (beta)	33213-65-9
Endrin	72-20-8
Esfenvalerate	66230-04-4
Ethylene dibromide	106-93-4
Fenvalerate	51630-58-1
Flumethrin	69770-45-2
Heptachlor	76-44-8
Heptachloroepoxide	1024-57-3
Hexachlorobenzene	118-74-1
Isodrin	465-73-6
Kelevan	4234-79-1
Kepone	143-50-0
Lindane (γ-HCH, including mixtures of isomers of HCH (BHC))	58-89-9 608-73-1
MCPA	94-74-6
MCPB	94-81-5
Mecoprop	93-65-2
Metamidophos	10265-92-6
Methoxychlor	72-43-5
Methyl bromide	74-83-9
Mirex	2385-85-5
Monocrotophos	6923-22-4
Monomethyldibromodiphenylmethane	99688-47-8
Monomethyldichlorodiphenylmethane	-
Monomethyltetrachlorodiphenyl-methane	76253-60-6
Parathion-methyl	298-00-0
Phosdrin / Mevinphos	7786-34-7
Quintozene	82-68-8
Paraquat dichloride	1910-42-5
Parathion	56-38-2
Permethrin	52645-53-1
Perthane	72-56-0
Phosphamidon	13171-21-6
Profenophos	41198-08-7
Propetamphos	31218-83-4
Quinalphos	13593-03-8
Strobane	8001-50-1
Telodrin	297-78-9
Toxaphene	8001-35-2
Triflumuron	64628-44-0
Trifluralin	1582-09-8
2,3,5,6-Tetrachlorophenol	935-95-5

Table 11

Substances listed in Annex XVII, the Candidate List of Substances of Very High Concern for authorization of Regulation (EC) No 1907/2006 (REACH) and/or the French AGEC legislation (LOI n° 2020-105).

PHTHALATES ESTERS	CAS NO	CANDIDATE LIST	ANNEX XVII	AEGC
Bis (2-ethylhexyl) phthalate) (DEHP)	117-81-7	x	x (entry 51)	x
Dibutyl phthalate (DBP)	84-74-2	x	x (entry 51)	x
Benzyl butyl phthalate (BBP)	85-68-7	x	x (entry 51)	x
Diisobutyl phthalate (DIBP)	84-69-5	x	x (entry 51)	x
Di-isononyl phthalate (DINP)	28553-12-0 68515-48-0		x (entry 52)	
Di-isodecyl phthalate (DIDP)	26761-40-0 68515-49-1		x (entry 52)	
Di-n-octyl phthalate (DNOP)	117-84-0		x (entry 52)	
1,2-benzenedicarboxylic acid, di-C6-8-branched alkylesters, C7- rich	71888-89-6	x	x (entry 72)	x
Di-n-pentyl phthalate (DPP)	131-18-0	x	x (entry 72)	x
Di-n-hexyl phthalate (DnHP)	84-75-3	x	x (entry 72)	x
Diisopentyl phthalate	605-50-5	x	x (entry 72)	x
Bis (2-methoxyethyl) phthalate	117-82-8	x	x (entry 72)	x
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	x		x
n-pentyl-isopentyl phthalate	776297-69-9	x		x
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	x		x
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	x		x
1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters, with ≥ 0.3% of dihexyl phthalate	68648-93-1	x		x
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters, with ≥ 0.3% of dihexyl phthalate	68515-51-5	x		x
Dicyclohexyl phthalate (DCHP)	84-61-7	x		x
Diisohexyl phthalate	71850-09-4	x		x
Diisooctyl phthalate (DIOP)	27554-26-3			x

Table 12

PAH substances listed in Annex XVII, the Candidate List of Substances of Very High Concern for authorization of the Regulation (EC) No 1907/2006 (REACH) and/or the French AGEC legislation (LOI n° 2020-105).

PAH - POLYCYCLIC AROMATIC HYDROCARBONS	CAS NO	CANDIDATE LIST and AGEC	ANNEX XVII, Entry 50	ANNEX XVII, Entry 72	German GS standard
Benzo(a)anthracene	56-55-3	x	x	x	x
Benzo(a)phenanthrene (chrysene)	218-01-9	x	x	x	x
Benzo(a)pyrene	50-32-8	x	x	x	x
Benzo(b)fluoranthene	205-99-2		x	x	x
Benzo(j)fluoranthene	205-82-3		x	x	x
Benzo(k)fluoranthene	207- 08 - 9	x	x	x	x
Dibenzo(a,h)anthracene	53-70-3		x	x	x
Benzo[e]pyrene	19 2- 97-2		x	x	x
Benzo[ghi]perylene	191-24-2	x			x
Anthracene	120 -12-7	x			x
Anthracene oil distillation fractions		x			
Fluoranthene	206-44-0	x			x
Phenanthrene	85-01-8	x			x

Pyrene	129-00-0	x			x
Naphthalene	91-20-3				x
Indeno[1,2,3-cd]pyrene	193-39-5				x

Table 13

Some examples of Per- and polyfluorinated chemicals. There will be even more substances.

*Included in the Norwegian regulation

PER- AND POLYFLUORINATED CHEMICALS	CAS NO
PFOS RELATED SUBSTANCES	
Perfluoroctane sulfonate (PFOS)	1763-23-1
Perfluoroctanesulfonamide (PFOSA)	754-91-6
N-Methyl-Perfluoroctanesulfonamide (N-Me-FOSA)	31506-32-8
N-Ethyl-Perfluoroctanesulfonamide (N-Et-FOSA)	4151-50-2
N-Methyl-Perfluoroctanesulfonamidoethanol (N-Me-FOSE)	24448-09-7
N-Ethyl-Perfluoroctanesulfonamidoethanol (N-Et-FOSE)	1691-99-2
PFOA RELATED SUBSTANCES	
Perfluoroctane acid (PFOA)	335-67-1*
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1*
Sodium perfluorooctanoate (Na-PFO)	335- 95-5*
Potassium perfluorooctanoate (Ca-PFO)	2395-00-8*
Silver perfluorooctanoate (Ag-PFO)	335-93-3*
Perfluorooctanoyl fluoride (F-PFO)	335-66-0*
Methyl pentadecafluorooctanoate (Me-PFO)	376-27-2*
Ethyl perfluorooctanonate (Et-PFO)	3108-24-5*
1H,1H,2H,2H-Perfluorodecylacrylat (8:2 FTA)	27905-45-9
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7
PFAS RELATED SUBSTANCES	
Perfluorobutanoic acid (PFBA)	375-22-4
Perfluoropentanoic acid (PFPeA)	2706-90-3
Perfluorohexanoic acid (PFHxA)	307-24-4
Perfluoroheptanoic acid (PFHpA)	375-85-9
Perfluorononanoic acid (PFNA)	375-95-1
Perfluorodecanoic acid (PFDA)	335-76-2
Perfluoroundecanoic acid (PFUnA)	2058-94-8
Heptacosafluorotetradecanoic acid (PFTA)	376-06-7
Tricosafluorododecanoic acid (PFDoA)	307-55-1
Pentacosafluorotridecanoic acid (PFTrDA)	72629-94-8
1H,1H,2H,2H-Perfluorododecane-1-ol (10:2 FTOH)	865-86-1
1H,1H,2H,2H-Perfluorooctylacrylat (6:2 FTA)	17527-29-6
1H,1H,2H,2H-Perfluoro-1-octanol (6:2 FTOH)	647-42-7
1H,1H,2H,2H-Perfluorododecylacrylat (10:2 FTA)	17741-60-5

Table 14

UV STABILIZERS	CAS NO
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3
2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)	3147-75-9
Bumetrizole (UV-326)	3896-11-5
3-benzylidene camphor (3-BC)	15087-24-8
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol (DBMC)	119-47-1

Table 15

BORIC ACID, BORATE COMPOUND	CAS NO
Boric acid	10043-35-3 and 11113-50-1
Disodium tetraborate anhydrous	1303-96-4, 12179-04-3 and 1330-43-4
Tetraboron disodium heptaoxid, hydrate	12267-73-1
Sodium perborate; perboric acid, sodium salt	234-390-0
Sodium peroxometaborate	7632-04-04
Disodium octaborate	12008-41-2
Orthoboric acid, sodium salt, e.g.	13840-56-7
Barium diboron tetraoxide	13701-59-2

Table 16

ARSENIC COMPOUNDS	CAS NO
Diarsenic Pentoxide	1303-28-2
Diarsenic Trioxide	1327-53-3
Triethyl arsenate	15606-95-8
Arsenic acid	7778-39-4
Calcium arsenate	7778-44-1

Table 17

All substances containing chromium VI – also the ones not listed here – are restricted by REACH Annex XVII Entries 47 and 72. This table list chromium VI substances listed in Annex XVII, the Candidate List of Substances of Very High Concern for authorization of Regulation (EC) No 1907/2006 (REACH) and/or the French AGEC legislation (LOI n° 2020-105).

CHROMIUM VI COMPOUNDS	CAS NO	Candidate list and AGEC	Annex XVII (entry 47, entry 72)
Chromium VI		X	X
Ammonium dichromate	7789-09-5	X	X
Potassium chromate	7789-00-6	X	X
Potassium dichromate	7778-50-9	X	X
Sodium chromate	7775-11-3	X	X
Sodium dichromate	7789-12-0, 10588-01-9		X
Strontium chromate	7789-06-2	X	X
Chromium trioxide	1333-82-0	X	X
Chromic acid	7738-94-5	X	X
Dichromic acid	13530-68-2	X	X
Lead chromate	7758-97-6	X	X
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	X	X
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	X	X
Dichromium tris(chromate)	24613-89-6	X	X
Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	X	X
Pentazinc chromate octahydroxide	49663-84-5	X	X

*All chromium VI containing substances (also the ones not listed here) are covered by the chromium restrictions.

Table 18

All substances containing lead – also the ones not listed here – are restricted by REACH Annex XVII Entries 63 and 72. This table list lead substances listed in the Candidate List of Substances of Very High Concern for authorization of Regulation (EC) No 1907/2006 (REACH) and/or the French AGEC legislation (LOI n° 2020-105).

SVHC LEAD METAL AND ITS COMPOUNDS	CAS NO	Candidate list and AGEC	Annex XVII (entry 63, entry 72)*
Lead (metal)	7439-92-1	X	X
Lead chromate	7758-97-6	X	X
Lead sulfochromate	1344-37-2	X	X
Lead chromate molybdate sulphate	12656-85-8	X	X
Lead dipicrate	6477-64-1	X	X
Lead styphnate	15245-44-0	X	X
Lead diazide	13424-46-9	X	X
Lead hydrogen arsenate	7784-40-9	X	X
Lead monoxide (Lead oxide)	1317-36-8	X	X
Orange lead (Lead tetroxide)	1314-41-6	X	X
Lead bis(tetrafluoroborate)	13814-96-5	X	X
Trilead bis(carbonate)dihydroxide	1319-46-6	X	X
Lead titanium trioxide	12060-00-3	X	X
Lead titanium zirconium oxide	12626-81-2	X	X
Lead(II) bis(methanesulfonate)	17570-76-2	X	X
Silicic acid, lead salt	11120-22-2	X	X
Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped	68784-75-8	X	X
Acetic acid, lead salt, basic	51404-69-4	X	X
Lead oxide sulfate	12036-76-9	X	X
[Phthalato(2-)]dioxotrilead	69011-06-9	X	X
Dioxobis(stearato)trilead	12578-12-0	X	X
Fatty acids, C16-18, lead salts	91031-62-8	X	X
Lead cynamidate	20837-86-9	X	X
Lead dinitrate	10099-74-8	X	X
Pentalead tetraoxide sulphate	12065-90-6	X	X
Pyrochlore, antimony lead yellow	8012-00-8	X	X
Sulfurous acid, lead salt, dibasic	62229-08-7	X	X
Tetraethyllead	78-00-2	X	X
Tetralead trioxide sulphate	12202-17-4	X	X
Trilead dioxide phosphonate	12141-20-7	X	X
Lead di(acetate)	301-04-2	X	X
Trilead diarsenate	3687-31-8	X	X

* All lead-containing substances (also the ones not listed here) are covered by the lead restrictions.

Table 19

The chemicals listed in table 19 are listed in Proposition 65 and are relevant for the materials addressed in the Varner RSL, but that are not otherwise included in this document. The listed chemicals are relevant for the production of Varner's brand Beyond Medal's goods to be sold in USA. Please, note that Proposition 65 is Californian legislation (USA) that does not apply in Europe, and are not relevant for other Varner brands than Beyond Medal.

Proposition 65 in California: Other chemicals listed		
Chemicals related to dyes		
Substance name	**CAS RN**	**Comment**
Aniline	62-53-3	NSRL: 100 µg/day
Benzyl violet 4B	1694-09-3	NSRL: 30 µg/day
2-Bromopropane	75-26-3	No Safe Harbor Limit
Carbon black (airborne, unbound particles of respirable size)	1333-86-4	No Safe Harbor Limit
C.I. Acid Red 114	6459-94-5	No Safe Harbor Limit
C.I. Direct Blue 15	2429-74-5	No Safe Harbor Limit
Cobalt sulfate	10124-43-3	No Safe Harbor Limit
Ethylene dichloride (1,2-Dichloroethane)	107-06-2	NSRL: 10 µg/day
Ethylene oxide	75-21-8	NSRL: 2 µg/day MADL: 20 µg/day
Leucomalachite green	129-73-7	No Safe Harbor Limit
Michler's ketone	90-94-8	NSRL: 0.8 µg/day
Naphthalene	91-20-3	NSRL: 5.8 µg/day
1,3-Propane sultone	1120-71-4	NSRL: 0.3 µg/day
Trypan blue (commercial grade)	72-57-1	No Safe Harbor Limit
Hexachlorobenzene	118-74-1	NSRL: 0.4 µg/day
Chemicals related to materials		
Substance name	**CAS RN**	**Comment**
Antimony oxide (Antimony trioxide)	1309-64-4	Polyester catalyst No Safe Harbor Limit
1-Butyl glycidyl ether	2426-08-6	Paints, coatings and adhesives No Safe Harbor Limit
Dichloromethane (Methylene chloride)	75-09-2	Triacetate (NSRL): 50 µg/day NSRL Inhalation: 200 µg/
Glycidyl methacrylate	106-91-2	Epoxy resins and adhesives No Safe Harbor Limit
N-Nitrosodimethylamine	62-75-9	Rubber NSRL: 0.04 µg/day
1,1,1-Trichloroethane	71-55-6	Solvent for various materials No Safe Harbor Limit

Biocides (Proposition 65 in California)		
Substance name	**CAS RN**	**Comment**
Metham sodium	137-42-8	No Safe Harbor Limit
o-Phenylphenate, sodium	132-27-4	NSRL: 200 µg/day
o-Phenylphenol	90-43-7	No Safe Harbor Limit
2,4,6-Trichlorophenol	88-06-2	NSRL: 10 µg/day
Methyl bromide, as a structural fumigant	74-83-9	MADL - Inhalation: 810 µg/day

Flame retardants (Proposition 65 in California)		
Substance name	**CAS RN**	**Comment**
Dimethyl hydrogen phosphite	868-85-9	No Safe Harbor Limit
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	13674-87-8	NSRL: 5.4 µg/day
Vinyl bromide	593-60-2	No Safe Harbor Limit

Table 20

Only approved biocides are allowed in the EU and in treated articles on the EU market. Some biocides are additionally restricted in the EU by REACH Annex XVII or the POPs regulation and some are listed in the Candidate List of Substances of Very High Concern for authorization of Regulation (EC) No 1907/2006 (REACH) and/or the French AGEC legislation (LOI n° 2020-105). This table includes examples of biocides that are not approved or that are only approved for some applications in the scope of this guidance.

EXAMPLES OF NON-APPROVED BIOCIDAL AGENTS	Target organisms	CAS RN	SVHC, AGEC	REACH	POPs
Carbendazim	Fungi/Mold	10605-21-7			
Chlorophenols, including: - PCP and its salts and esters - TeCP	Fungi/Mold	 e.g. 87-86-5, 131-52-2 935-95-5, 4901-51-3, 58-90-2			x
Cu-HDO (Bis-(N-cyclohexyl diazeniumdioxy)-copper)	Fungi/Mold	312600-89-8			
DMFu – Dimethylfumarate	Fungi/Mold	624-49-7		x	
Formaldehyde	Several	50-00-0	x	x	
Glutaral	Several	111-30-8	x		
o-phenylphenol (OPP) and Sodium 2-biphenylate (Na-OPP)	Fungi/Mold	90-43-7, 132-27-4			
Permethrin, d-allethrin, Prallethrin, esobiothrin, metofluthrin and empenthrin. Some other phyrethroids are approved.	Insects	Several			
Polyhexamethylene biguanide (PHMB)	Bacteria	e.g. 27083-27-8, 32289-58-0, 1802181-67-4			
Silver, silver-salts and nano-silver compounds.	Bacteria	Several			
Triclosan and Triclocarban	Bacteria	3380-34-5, 101-20-2			
Triflumuron	Insects	64628-44-0			
Trisubstituted tin organic compounds, including: - Tributyltin oxide (TBTO)	Bacteria	e.g. 1461-22-9, 1983-10-4, 2155-70-6, 4342-36-3, 24124-25- 2, 85409-17-2 56-35-9	 x	x x	
Zinkpyrithion	Several	13463-41-7			