

# JOSH V

RESTRICTED SUBSTANCES LIST JOSH V

("RSL") 1.0

September 2022

# JOSH V

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# JOSH V

## INTRODUCTION 1.0

The production of apparel from raw materials to finished products is a complex and chemical-intensive process.

For this reason JOSH V is committed to developing and implementing responsible chemical management procedures throughout its supply chain and for all manufacturing processes and product components (including accessories / trims attached to garments, prints and packaging materials).

JOSH V expects the same commitment from its suppliers and has developed a Restricted Substances List (JOSH V RSL 1.0) as a reference for suppliers regarding all chemicals that are banned or restricted in JOSH V's production processes and finished products. The purpose of the Restricted Substances List (RSL) is to help reduce the use of hazardous substances in JOSH V's textile and apparel supply chain.

It is JOSH V's priority to ensure that all chemicals and other substances (dyes, finishes etc) used in the manufacture of its products are approved and quantities fall within the maximum allowable concentration limits stated in this RSL. Non-compliance with these requirements can have serious consequences not only for the final consumer but also for the environment and for workers involved in the manufacturing process.

The RSL includes:

1. All legal and upcoming textile-related requirements in the European Union.
2. Industry standards and best practices.
3. Responsibility of the supplier regarding Substances of Very High Concern (SVHC) mentioned on the REACH Candidate list.

A valid OEKO-TEX® Standard 100 product certificate issued by the OEKO-TEX® Association ([www.oeko-tex.com](http://www.oeko-tex.com)) covers most of the requirements of this RSL. The Sustainable Textile Production (STeP) is an OEKO-TEX® certification that has a wider scope which includes an analysis of a production facility's management and performance with respect to certain environmental considerations. Certification based on the Oeko-Tex® Standard 100 or STeP can be sometimes more cost effective than carrying out single tests.

Please be prepared that your contact person may request a signature for each order as a declaration that the specific order complies with our RSL requirements. It is also possible that one or more of your styles could be selected for pre-shipment testing at a certified laboratory.

As a matter of general principle, JOSH V reserves the right to select styles to be (counter) tested upon arrival in our warehouse. If this test produces a "FAIL" result, all of the costs incurred in this testing process shall be borne by the supplier, including all additional costs associated with non-marketable styles.

As part of our ongoing sustainability improvement process, this RSL will be updated on a regular basis to incorporate additions to the list and/or changes to legislation. Together with our vendors, we seek opportunities to achieve continuous improvement in this area. To this end, the RSL can be used as a basis for the development of Quality Management Systems.

Should you have any questions, please do not hesitate to contact:

Yenneke de Moes, Sustainability & CSR Coordinator:

[Yenneke@joshv.com](mailto:Yenneke@joshv.com)

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Materials version 1.0 - Examples of materials within the scope of the JOSH V RSL\*

Natural Fibres Including semi-synthetics	Blended Fibres	Synthetic Fibres	Artificial Leather	Natural Leather	Coatings & Prints	Natural Materials	Other Materials	Polymers, Plastics, Foams, Natural Rubber & Synthetic Rubber	Metal	Feathers & Down	Glue
<ul style="list-style-type: none"> <li>• Cotton</li> <li>• Wool</li> <li>• Silk</li> <li>• Hemp</li> <li>• Cashmere</li> <li>• Linen</li> <li>• Fur</li> <li>• Rayon (Semi-synthetic)</li> <li>• Lyocell (Semi-synthetic)</li> </ul>	<ul style="list-style-type: none"> <li>• Cotton-Polyester</li> <li>• Wool-Nylon</li> <li>• Ramie- Polyester</li> </ul>	<ul style="list-style-type: none"> <li>• Polyester</li> <li>• Acrylic</li> <li>• Nylon</li> <li>• Polyamide</li> </ul>	<ul style="list-style-type: none"> <li>• Polyurethane (PU)</li> <li>• Polyvinyl Chloride (PVC)</li> </ul>	<ul style="list-style-type: none"> <li>• Leather</li> </ul>	<p>Printing techniques such as:</p> <ul style="list-style-type: none"> <li>• Heat transfers</li> <li>• Dye sublimation printing</li> <li>• Screen printing</li> <li>• Direct-to-garment printing</li> <li>• Discharge printing</li> <li>• Plastisol transfers</li> </ul> <p>Coatings such as:</p> <ul style="list-style-type: none"> <li>• Polyvinyl chloride (PVC)</li> <li>• Polyurethane (PU)                             <ul style="list-style-type: none"> <li>• UV-cured</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Horn</li> <li>• Bone</li> <li>• Cork</li> <li>• Wood</li> <li>• Paper</li> <li>• Straw</li> <li>• Stone</li> </ul>	<ul style="list-style-type: none"> <li>• Glass</li> <li>• Synthetic stone</li> <li>• Porcelain</li> <li>• Ceramic</li> <li>• Crystal</li> </ul>	<ul style="list-style-type: none"> <li>• Ethylene vinyl acetate (EVA)                             <ul style="list-style-type: none"> <li>• Polystyrene (PS)</li> <li>• Polyethylene (PE)</li> </ul> </li> <li>• Acrylonitrile butadiene styrene (ABS)                             <ul style="list-style-type: none"> <li>• Neoprene</li> </ul> </li> <li>• Polypropylene (PP)</li> <li>• Polycarbonate (PC)</li> <li>• Polyamide (PA)</li> <li>• Polyurethane (PU)</li> <li>• Polyvinyl chloride (PVC)</li> <li>• Thermoplastic polyurethane (TPU)</li> <li>• Thermoplastic elastomer (TPE)</li> <li>• Styrene ethylene butylene styrene (SEBS)</li> </ul>	<ul style="list-style-type: none"> <li>• Stainless steel</li> <li>• Brass</li> <li>• Copper</li> <li>• Gold</li> <li>• Silver</li> <li>• Aluminum</li> </ul>	<ul style="list-style-type: none"> <li>• Feathers</li> <li>• Down</li> </ul>	<ul style="list-style-type: none"> <li>• Hot melt adhesive</li> <li>• Powdered adhesive</li> <li>• Flock adhesive</li> <li>• Contact adhesive                             <ul style="list-style-type: none"> <li>• Latex glue</li> </ul> </li> <li>• Polyurethane glue</li> <li>• Neoprene cement                             <ul style="list-style-type: none"> <li>• Epoxies</li> </ul> </li> <li>• Silicone adhesive</li> <li>• UV-cured adhesive</li> </ul>

\* NOTE: This list provides examples of materials within each category but is not all-inclusive.

# JOSH V

## Risk matrix version 1.0

- indicates that a chemical has been in widespread use and/or frequently detected in a particular material.
- indicates that a chemical has been deliberately used and/or detected in a particular material occasionally.
- indicates there is a very low but theoretical chance that a chemical could be used and/or detected.
- No dot indicates that we believe there is an almost negligible risk of a chemical being used and/or detected.

CHEMICAL	NATURAL FIBERS	SYNTHETIC FIBERS	BLENDED FIBERS	ARTIFICIAL LEATHER	NATURAL LEATHER	NATURAL MATERIALS	METALS	FEATHER & DOWN	POLYMERS								COATING AND PRINTS	GLUE	
									EVA	PU Foams	All other PU & TPU	Rubber excludes latex and silicon rubbers	Polycarbonate	ABS	PVC	All Other foams, plastics & Polymer			
ACETOPHENONE & 2-PHENYL-2-PROPANOL									●●										
ALKYLPHENOLS (AP)									●●	●●	●●	●●	●●	●●	●●	●●			
ALKYLPHENOL ETHOXYLATES (APEO)	●●●	●●●	●●●	●●●	●●●	●●●		●●●									●●●	●●●	
AZO AMINES AND ARYLAMINE SALTS	●●●	●●●	●●●	●●●/A	●●●	●●●/A		●●●/A									●●●		
DIMETHYLFUMURATE					●●														
CHLORINATED PARAFFINS				●●	●●●				●●	●●	●●●	●●●	●●	●●	●●●	●●			
CHLORINATED BENZENES AND TOLUENES		●●	●●	●●															
CHLOROPHENOLS	●●	●●	●●		●●														
DISPERSE DYES		●●●	●●●	●●●													●●		
CARCINOGENIC DYES		●●●	●●●	●●●													●●		
DYES NAVY BLUE		●●	●●																
FLAME RETARDANTS	●●/B																		
FLUORINATED GREENHOUSE GASES																			
FORMALDEHYDE	●●●	●●●	●●●	●●	●●●	●●●/C						●●					●●●	●●●	
HEAVY METALS EXTRACTABLE	●●●	●●●	●●●	●●	●●●		●●/M		●●	●●	●●	●●	●●	●●	●●	●●	●●		
CHROMIUM VI	●●/D	●●/E			●●●														
HEAVY METALS TOTAL CONTENT	●●/F		●●/F	●●●	●●		●●●		●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●
A Level 1 for dyed/colored materials.	D Level 2 for Wool materials.						G Level 1 for PVC materials.						K Level 1 if Rubber or black Polymeric materials.						
B Level 2 if Flame Retardants are applied.	E Level 2 if extractable Chrome above 1 mg/kg						H Level 2 for Styrene/Butadiene Rubbers (SBRs) only.						L Level 1 for PU-based materials.						
C Level 1 for Wood, Paper, and Straw materials.	F Level 2 for plant-based fibers; N/A for animal-based fibers.						J Level 1 if a Fluorinated finish is applied.						M Copper is exempt from limits in Metal parts						

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CHEMICAL	NATURAL FIBERS	SYNTHETIC FIBERS	BLENDED FIBERS	ARTIFICIAL LEATHER	NATURAL LEATHER	NATURAL MATERIALS	METALS	FEATHER & DOWN	POLYMERS								COATING AND PRINTS	GLUE	
									EVA	PU Foams	All other PU & TPU	Rubber excludes latex and silicon rubbers	Polycarbonate	ABS	PVC	All Other foams, plastics & Polymer			
HEAVY METALS RELEASABLE NICKEL							●●●												
MONOMERS, STYRENE & VINYL CHLORIDE				●●●/G								●●/H		●●	●●●			●●●/G	
N-NITROSAMINES												●●							
ORGANOTIN COMPOUNDS		●●	●●	●●●	●●					●●●	●●●	●●●			●●●	●●●	●●●	●●●	●●●
ORTHO-PHENYLPHENOL (OPP)	●●	●●	●●	●●	●●													●●	
OZONE DEPLETING SUBSTANCES																			
PERFLUORINATED CHEMICALS																			●●●/J
PESTICIDES AGRICULTURAL																			
PHTHALATES				●●●						●●●	●●●	●●●	●●●	●●	●●	●●●	●●●	●●●	●●●
POLYCLIC AROMATIC HYDROCARBONS				●●						●●●/K	●●●/K	●●●/K	●●●			●●●/K	●●●/K	●●●/K	●●●/K
QUINOLINE		●●	●●																
BISPHENOLS		●●	●●		●●					●●	●●	●●	●●	●●●	●●	●●	●●	●●	
UV STABILISERS										●●	●●	●●	●●	●●	●●	●●	●●	●●	
SOLVENTS/RESIDUALS DMFa				●●●							●●●	●●●						●●●/L	●●●/L
SOLVENTS/RESIDUALS DMAC AND NMP				●●●							●●	●●						●●	●●
SOLVENTS/RESIDUALS FORMAMIDE										●●								●●	
VOLATILE ORGANIC COMPOUNDS (VOCs)				●●						●●	●●	●●	●●	●●	●●	●●	●●	●●	●●●
pH	●●●	●●●	●●●	●●●	●●●														
A Level 1 for dyed/colored materials	D Level 2 for Wool materials						G Level 1 for PVC materials						K Level 1 if Rubber or black Polymeric materials						
B Level 2 if Flame Retardants are applied	E Level 2 if extractable Chrome above 1 mg/kg						H Level 2 for Styrene/Butadiene Rubbers (SBRs) only						L Level 1 for PU-based materials						
C Level 1 for Wood, Paper, and Straw materials	F Level 2 for plant-based fibers; N/A for animal-based fibers						J Level 1 if a Fluorinated finish is applied						M Copper is exempt from limits in Metal parts						

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>ACETOPHENONE AND 2- PHENYL-2-PROPANOL</b>					
Acetophenone	98-86-2		Extraction in acetone or methanol GC/MS, sonication for 30 minutes at 60 degrees C	< 50 mg/kg each	Potential breakdown products in EVA foam when using certain cross-linking agents, including Dicumyl Peroxide.
2-Phenyl-2-Propanol	617-94-7				
<b>ACIDIC AND ALKALINE SUBSTANCES</b>					
pH value	Various		Textiles and Artificial Leather:  EN ISO 3071:2020  Leather: EN ISO 4045:2018	Textiles: 4.0–7.5  Leather: 3.2–4.5	<p>pH value is a characteristic number, ranging from pH 0 to pH 14, which indirectly shows the content of acidic or alkaline substances in a product.</p> <p>pH values less than 7 indicate sources of acidic substances, and values greater than 7 indicate sources of alkaline substances.</p> <p>To avoid irritation or chemical burns to the skin, the pH value of products must be in the range of human skin— approximately pH 5.5.</p> <p>Josh V recommends the limits cited to comply with all global regulations for all products.</p>

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION	
<b>ALKYLPHENOLS (AP) AND ALKYLPHENOL ETHOXYLATES (APEO)</b>						
Nonylphenols (NP), mixed isomers	Various	<p>EU: REACH Regulation 1907/2006 Annex XVII entry No. 46a+b</p> <p>NPEO will be limited in REACH Regulation 1907/2006 Annex XVII entry No. 46a</p> <p>The entry is applicable for textile articles which can reasonably be expected to be washed in water during their normal lifecycle in concentrations equal to or greater than 0.01% (100 mg/kg) by weight of that textile article or of each part of the textile article.</p>	<p>Textiles and Leather: EN ISO 21084:2019</p> <p>Polymers and all other materials: 1 g sample/20 mL THF, sonication for 60 minutes at 70 degrees C, analysis according to EN ISO 21084:2019</p>	<p>Total APs: 10 mg/kg</p> <p>Total APs + APEOs: 100 mg/kg</p>	<p>APEOs can be used as or found in detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifying/dispersing agents for dyes and prints, impregnating agents, de-gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings.</p> <p>APs are used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilize polymers.</p> <p>Biodegradation of APEOs into APs is the main source of APs in the environment.</p> <p>APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes.</p>	
Octylphenols (OP), mixed isomers	Various					
Nonylphenol ethoxylates (NPEOs)	Various			<p>All materials except Leather: EN ISO 18254-1:2016 with determination of APEO using LC/MS or LC/MS/MS</p> <p>Leather: Sample prep and analysis using EN ISO 18218-1:2015 with quantification according to EN ISO 18254-1:2016</p>	<p>Total APs: 10 mg/kg</p> <p>Total APs + APEOs: 100 mg/kg</p>	<p>We acknowledge that residual or trace concentrations of APEOs may still be found at levels exceeding 100 mg/kg and that more time is necessary for the supply chain to phase them out completely.</p>
Octylphenol ethoxylates (OPEOs)	Various					<p>Recycled products: Contact JOSH V for information about potential exemptions from the limit on NPEOs in recycled textile products.</p>



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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>AZO-AMINES AND ARYLAMINE SALTS</b>					
4-Aminobiphenyl	92-67-1	EU: REACH Regulation 1907/2006 Annex XVII entry No. 43 + appendix 8	All materials except leather: EN ISO 14362-1:2017  Leather: EN ISO 17234-1:2015  4-Aminoazobenzene (4AAB) All materials except leather: EN ISO 14362-3: 2017  Leather: EN ISO 17234-2:2011	< 20 mg/kg	Azo dyes and pigments are colorants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds.  Thousands of azo dyes exist, but only those which degrade to form the listed cleaved amines are restricted.  Azo dyes that release these amines are regulated and should no longer be used for dyeing textiles.
Benzidine	92-87-5				
4-Chloro-o-toluidine	95-69-2				
2-Naphtylamine	91-59-8				
o-Aminoazotoluene	97-56-3				
2-Amino-4-nitrotoluene	99-55-8				
p-Chloraniline	106-47-8				
2,4-Diaminoanisole	615-05-4				
4,4'-Diaminodiphenylmethane (4,4'-MDA)	101-77-9				
3,3'-Dichlorobenzidine	91-94-1				
3,3'-Dimethoxybenzidine	119-90-4				
3,3'-Dimethylbenzidine	119-93-7				
3,3'-dimethyl-4,4'-diaminodiphenylmethane	838-88-0				
p-Cresidine	120-71-8				
4,4'-Methylen-bis(2-chloraniline)	101-14-4				
4,4'-Oxydianiline	101-80-4				
4,4'-Thiodianiline	139-65-1				
o-Toluidine	95-53-4				
2,4-Toluyldiamine (2,4-TDA)	95-80-7				
2,4,5-Trimethylaniline	137-17-7				
2-Methoxyaniline (= o-Anisidine)	90-04-0				
4-Aminoazobenzene (4-AAB)	60-09-3				
2,4-Xylidine	95-68-1	EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12			
2,6-Xylidine	87-62-7				
4-Chloro-o-toluidinium chloride	3165-93-3				
2-Naphthylammoniumacetate	553-00-4				
4-Methoxy-m-phenylene diammonium sulphate	39156-41-7				
2,4,5-Trimethylaniline hydrochloride	21436-97-5				

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>BIOCIDES</b>					
Dimethylfumarate (DMFu)	624-49-7	EU: REACH Regulation 1907/2006 Annex XVII entry No.61	All materials: ISO 16186:2021	< 0.1 mg/kg	DMFu is an anti-mold agent that may be used in sachets in packaging to prevent the buildup of mold, especially during shipping.
o-Phenylphenol (OPP)	90-43-7		All materials: DIN 50009:2021	< 1000 mg/kg	OPP is used for its preservative properties in leather or as a carrier in polyester dyeing processes.

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>BISPHENOLS</b>					
Bisphenol-A (BPA)	80-05-7	EU: REACH Regulation 1907/2006 SVHC Candidate List	<p>All materials:</p> <p>Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60 degrees C, analysis with LC/MS</p>	< 1 mg/kg	<p>Used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC.</p> <p>Restricted in items intended to come into contact with the mouth.</p>
Bisphenol S (BPS)	80-09-1			<p>Josh V recommends testing synthetic textiles &amp; blends, polycarbonate plastics, and natural leather to assess concentrations of Bisphenols in preparation for future restriction.</p>	
Bisphenol F (BPF)	620-92-8				
Bisphenol AF (BPAF)	1478-61-1				

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>CHLORINATED PARAFFINS</b>					
Short-chain Chlorinated Paraffins (SCCPs) (C10-C13)	85535-84-8	EU: Regulation 2019/1021 on Persistent Organic Pollutants EU: REACH Regulation 1907/2006 SVHC Candidate List	Leather: ISO 18219-1:2021 (SCCP) ISO 18219-2:2021 (MCCP)	< 1000 mg/kg	May be used as softeners, flame retardants, or fat-liquoring agents in leather production; also as a plasticizer in polymer production.
Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17)	85535-85-9	EU: Regulation 1907/2006 Candidate List	Textiles: ISO 22818:2021 (SCCP + MCCP)	< 1000 mg/kg	

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>CHLORINATED BENZENES AND TOLUENES</b>					
Hexachlorobenzene (HCB)	118-74-1	EU: Regulation 2019/1021 on Persistent Organic Pollutants	All materials: EN 17137:2018	< 1 mg / kg (total)	Chlorobenzenes and Chlorotoluenes (Chlorinated Aromatic Hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/ polyester fibers.  They can also be used as solvents.
Pentachlorobenzenes (PCB)	608-93-5				
$\alpha,\alpha,\alpha,4$ -tetrachlorotoluene; p-chlorobenzotrichloride	5216-25-1	EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12			
$\alpha,\alpha,\alpha$ -trichlorotoluene; benzotrichloride	98-07-7				
$\alpha$ -chlorotoluene; benzyl chloride	100-44-7				
1,2,3-Trichlorobenzene	87-61-6				
1,2,4-Trichlorobenzene	120-82-1				
1,3,5-Trichlorobenzene	108-70-3				
1,2,3,4-Tetrachlorobenzene	634-66-2				
1,2,3,5-Tetrachlorobenzene	634-90-2				
1,2,4,5-Tetrachlorobenzene	95-94-3				
1,3-Dichlorobenzene	541-73-1				
1-4-Dichlorobenzene	106-46-7				
2-Chlorotoluene	95-49-8				
3-Chlorotoluene	108-41-8				
4-Chlorotoluene	106-43-4				
2,3-Dichlorotoluene	32768-54-0				
2,4-Dichlorotoluene	95-73-8				
2,5-Dichlorotoluene	19398-61-9				
2,6-Dichlorotoluene	118-69-4				
3,4-Dichlorotoluene	95-75-0				
2,3,6-Trichlorotoluene	2077-46-5				
2,4,5-Trichlorotoluene	6639-30-1				
2,3,4,5-Tetrachlorotoluene	76057-12-0				
2,3,4,6-Tetrachlorotoluene	875-40-1				
2,3,5,6-Tetrachlorotoluene	1006-31-1				
Pentachlorotoluenes	877-11-2				
1,2-Dichlorobenzene	95-50-1				

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>CHLOROPHENOLS</b>					
Pentachlorophenol (PCP)	87-86-5	EU: Regulation 2019/1021 on Persistent Organic Pollutants	All materials: DIN 50009:2021	< 0.5 mg/kg each	<p>Chlorophenols are polychlorinated compounds used as preservatives or pesticides.</p> <p>Pentachlorophenol (PCP), Tetrachlorophenol (TeCP), and Trichlorophenols (TriCP) are sometimes used to prevent mold and kill insects when growing cotton and when storing /transporting fabrics.</p> <p>PCP, TeCP, and TriCP can also be used as in-can preservatives in print pastes and other chemical mixtures.</p>
2,3,5,6- Tetrachlorophenol (TeCP)	935-95-5	SWITZERLAND: ORRChem annex 1.2 (Art.3)			
2,3,4,6- Tetrachlorphenol (TeCP)	58-90-2				
2,3,4,5- Tetrachlorphenol (TeCP)	4901-51-3				
2,3,4-Trichlorophenol (TrCP)	15950-66-0				
2,3,5-Trichlorophenol (TrCP)	933-78-8				
2,3,6-Trichlorophenol (TrCP)	933-75-5				
2,4,5-Trichlorophenol (TrCP)	95-95-4				
2,4,6-Trichlorophenol (TrCP)	88-06-2				
3,4,5-Trichlorophenol (TrCP)	609-19-8				

# JOSH V

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>DISPERSE DYES WHICH ARE CLASSIFIED TO BE ALLERGENIC</b>					
C.I. Disperse Blue 1	2475-45-8	EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12	All materials: DIN 54231:2005	< 30 mg/kg	<p>Disperse dyes are a class of water- insoluble dyes that penetrate the fiber system of synthetic or manufactured fibers and are held in place by physical forces without forming chemical bonds.</p> <p>Disperse dyes are used in synthetic fiber (e.g. polyester, acetate, polyamide).</p> <p>Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles.</p>
C.I. Disperse Blue 35A	56524-77-7	GERMANY: The authoritative German Federal Institute for Risk Assessment (BfR) strongly advises not to use the sensitising disperse dyes listed. Please note that in Germany findings for these substances are judged according to the Lebensmittel- , Bedarfsgegenstände- und Futtermittelgesetzbuch (LFGB), which is somehow legally binding and considered to be best practice.			
C.I. Disperse Blue 35B	56524-76-6				
C.I. Disperse Blue 106	12223-01-7				
C.I. Disperse Blue 124	61951-51-7				
C.I. Disperse Orange 3	730-40-5				
C.I. Disperse Orange 37/59/76	12223-33-5 13301-61-6 51811-42-8				
C.I. Disperse Red 1	2872-52-8				
C.I. Disperse Yellow 3	2832-40-8				
C.I. Disperse Blue 3	2475-46-9				
C.I. Disperse Blue 7	3179-90-6				
C.I. Disperse Blue 26	3860-63-7				
C.I. Disperse Blue 102	12222-97-8				
C.I. Disperse Brown 1	23355-64-8				
C.I. Disperse Orange 1	2581-69-3				
C.I. Disperse Orange 11	82-28-0				
C.I. Disperse Orange 149	85136-74-9				
C.I. Disperse Red 11	2872-48-2				
C.I. Disperse Red 17	3179-89-3				
C.I. Disperse Red 151	61968-47-6				
C.I. Disperse Yellow 1	119-15-3				
C.I. Disperse Yellow 7	6300-37-4				
C.I. Disperse Yellow 9	6373-73-5				
C.I. Disperse Yellow 23	6250-23-3				
C.I. Disperse Yellow 39	12236-29-2				
C.I. Disperse Yellow 49	54824-37-2				
C.I. Disperse Yellow 56	54077-16-6				

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION		
<b>DYES WHICH ARE CLASSIFIED TO BE CARCINOGENIC</b>							
C.I. Basic Red 9	569-61-9	EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12	All materials: DIN 54231:2005	< 30 mg/kg	Basic dyes are water- soluble cationic dyes mainly used on acrylic fibers.		
C.I. Basic Violet 3 (with ≥ 0.1 % Michler's ketone or base)	548-62-9						
C.I. Basic Blue 26 (with ≥ 0.1 % Michler's ketone or base)	2580-56-5	EU: Regulation 1907/2006 Candidate List					
C.I. Basic Violet 14	632-99-5						
C.I. Basic Green 4 (oxalate, chloride or free)	2437-29-8						
	569-64-2 10309-95-2						
C.I. Acid Red 26	3761-53-3					Acid dyes are water-soluble anionic dyes mainly used on fibers such as wool, silk, and nylon.	
C.I. Direct Black 38	1937-37-7	EU: Regulation 1907/2006 Candidate List					Direct dyes are used on natural fibers such as cotton, linen, cellulose and in special treatments such as dip dyes.
C.I. Direct Red 28	573-58-0						
C.I. Direct Blue 6	2602-46-2						Solvent dyes are dyes which are soluble in organic solvents, and can be used on natural and synthetic fibers.
C.I. Direct Brown 95	16071-86-6						
4-Dimethylaminoazobenzene (Solvent Yellow 2)	60-11-7						
C.I. Solvent Blue 4	6786-83-0						
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1						
<b>DYESTUFFS CARCINOGENIC AND WITH ENVIRONMENTAL PROBLEMS</b>							
Navy Blue is a mixture of: disodium (6-(4-anisidino)-3- sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1- naphtholato)(1-(5-chloro-2-oxidophenylazo)-2- naphtholato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)-chromate(1-)	Component 1: 118685-33-9 Component 2: Not allocated	EU: REACH Regulation 1907/2006 Annex XVII entry no.43 + appendix 9	All materials: DIN 54231:2005	< 30 mg/kg	Navy Blue Dye is a specific dye mixture used to dye leather and textiles.		



# JOSH V

Restricted Substances List version 1.0					
SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>FLAME RETARDANTS</b>					
Tri(2,3-dibromopropyl)phosphate (TRIS)	126-72-7	EU: REACH Regulation 1907/2006 Annex XVII entry No. 4	EN ISO 17881-1 (2016) for brominated flame retardants  EN ISO 17881-2 (2016) for phosphorus flame retardants	< 10 mg/kg each	<p>With very limited exceptions, flame- retardant substances, including the entire class of organohalogen flame retardants, should no longer be applied to materials during production.</p> <p>Listed here are examples of flame-retardant substances used historically across the apparel and footwear industry.</p> <p>It is not intended to be a complete list.</p> <p>Other flame retardants not applicable to this industry are regulated worldwide by the Stockholm Convention and the Aarhus Protocol, which have been implemented in the European Union under the POPs Regulation.</p>
Tris(aziridinyl)phosphin oxide (TEPA)	545-55-1	EU: REACH Regulation 1907/2006 Annex XVII entry No.7			
Polybromobiphenyls (PBBs)	59536-65-1 various	EU: REACH Regulation 1907/2006 Annex XVII entry No.8			
Octabromodiphenylethers (OctaBDEs)	32536-52-0	EU: REACH Regulation 1907/2006 Annex XVII entry No.45			
Polybrominated diphenyl ethers (PBDEs)	Various	EU: Regulation 2019/1021 on Persistent Organic Pollutants			
Decabromodiphenylether (DecaBDE)	1163-19-5				
Pentabromodiphenylethers (PentaBDEs)	32534-81-9				
Hexabromocyclododecane (HBCDD)	3194-55-6				
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8				
Decabromodiphenyl ethane (DBDPE)	84852-53-9				
Tetrabromobisphenol A (TBBPA)	79-94-7				
Bis(2,3-dibromopropyl)phosphate (BDBPP)	5412-25-9				
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0				
Tris(1,3-dichloro-iso-propyl)phosphate (TDCPP)	13674-87-8				
Trixylylphosphate (TXP)	25155-23-1				
<b>FLUORINATED GREENHOUSE GASES</b>					
See Regulation (EU) No 517/2014 for a complete list.	Various	Regulation (EU) No 517/2014	Sample preparation: Purge and trap — thermal desorption or SPME Measurement: GC/MS	< 0.1 mg/kg each	<p>Prohibited from use.</p> <p>May be used as foam blowing agents, solvents, fire retardants, and aerosol propellants.</p>

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>FORMALDEHYDE</b>					
Formaldehyde	50-00-0	EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12	<p>All materials except Leather: JIS L 1041-2011 A (Japan Law 112) or EN ISO 14184-1:2011</p> <p>Leather: EN ISO 17226-2:2019 with EN ISO 17226-1:2021 confirmation method in case of interferences. Alternatively, EN ISO 17226-1:2021 can be used on its own.</p>	< 75 mg/kg	Used in textiles as an anti-creasing and anti-shrinking agent. It is also often used in polymeric resins.

# JOSH V

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>HEAVY METALS EXTRACTABLE</b>					
Chromium VI (Cr VI)	18540-29-9	EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12	EN 16711-2:2016 EN ISO 17075-1:2017 if Cr is detected	< 1.0 mg/kg	Though typically associated with leather tanning, Chromium VI also may be used in the “after-chroming” process for wool dyeing (Chrome salts applied to acid-dyed wool to improve fastness).
Arsenic (As)	7440-38-2		< 0.2 mg/kg	Arsenic and its compounds can be used in preservatives, pesticides, and defoliants for cotton, synthetic fibers, paints, inks, trims, and plastics.	
Cadmium (Cd)	7440-43-9		< 0.1 mg/kg	Cadmium compounds are used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides, and paints.	
Lead (Pb)	7439-92-1		All materials except Leather:	< 1.0 mg/kg*	Lead may be associated with plastics, paints, inks, pigments and surface coatings.
Antimony (Sb)	7440-36-0		DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2019	< 30 mg/kg	Antimony can be found in or used as a catalyst in polymerization of polyester, flame retardants, fixing agents, pigments, and alloys.
Barium (Ba)	7440-39-3		* Crystal or “lead glass” is exempt from total Lead restrictions.	< 1000 mg/kg	Barium and its compounds can be used in pigments for inks, plastics, and surface coatings, as well as in dyeing, mordants, filler in plastics, textile finishes, and leather tanning.
Cobalt (Co)	7440-48-4			< 4.0 mg/kg	Cobalt and its compounds can be used in alloys, pigments, dyestuff, and the production of plastic buttons.
Copper (Cu)	7440-50-8			< 50.0 mg/kg	Copper and its compounds can be found in alloys and pigments, and in textiles as an antimicrobial agent.

# JOSH V

**Restricted Substances List version 1.0**

SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>HEAVY METALS EXTRACTABLE CONTINUED</b>					
Nickel (Ni)	7440-02-0		All materials except Leather:  DIN EN 16711-2:2016  Leather: DIN EN ISO 17072-1:2019	< 1.0 mg/kg	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys.
Chromium (Cr)	7440-47-3			< 2.0 mg/kg Leather: < 200 mg/kg	Chromium compounds can be used as dyeing additives; dye-fixing agents; color-fastness after-treatmnts; dyes for wool, silk, and polyamide (especially dark shades); and leather tanning.
Mercury (Hg)	7439-97-6			< 0.02 mg/kg	Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints.
Selenium (Se)	7782-49-2			< 500 mg/kg	Selenium may be found in synthetic fibres, paints, inks, plastics and metal trims.
<b>APPLICABLE FOR LEATHER</b>					
Chromium VI (Cr VI)	18540-29-9	EU: REACH Regulation 1907/2006 ANNEX XVII entry No.47	EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation in case the extract causes interference. Alternatively, EN ISO 17075-2:2017 may be used on its own.  Aging of the sample is required according to ISO 10195 (2018) Method A1 (24h, 80°C, max. 10%rH, usage of a non- ventilated oven)	Not detected Detection Limit: 3 mg/kg	Many heavy metals are bio accumulative when absorbed by the human body through perspiration and give cause for concern in health terms such as chronic toxicity, allergenic reactions and cancer.

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>HEAVY METALS TOTAL CONTENT</b>					
Cadmium (Cd)	7440-43-9	EU: REACH Regulation 1907/2006 ANNEX XVII entry No.23	All materials except Leather: DIN EN 16711-1:2016  Leather: DIN EN ISO 17072-2:2019	< 40 mg/kg	<p>Heavy metals, including arsenic, cadmium, lead, and mercury may be found in pigments and dyes, metal alloys and coating, and in the PVC stabilization process.</p> <p>Cadmium may be found in low quality dyes. Arsenic, cadmium, lead, and mercury may be found in pigments, but have largely been phased out. Metal alloys and coatings may contain arsenic, cadmium, and lead.</p> <p>PVC stabilization may be accomplished with the use of cadmium or lead.</p>
Lead (Pb)	7439-92-1	EU: REACH Regulation 1907/2006 ANNEX XVII entry No.63	Non-metal: CPSC-CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3 Lead in paint and surface coatings: CPSC-CH-E1003-09.1	< 90 mg/kg	
Mercury (Hg)	7439-97-6		All materials except Leather: DIN EN 16711-1:2016	< 0.5 mg/kg	
Arsenic (As)	7440-38-2		Leather: DIN EN ISO 17072-2:2019	< 100 mg/kg	

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>HEAVY METALS RELEASABLE NICKEL</b>					
Nickel	7440-02-0	EU:REACH Regulation 1907/2006 ANNEX XVII entry No.27	EN 12472: 2020 + A1: 2015	Release (metal parts): Prolonged skin contact: 0.5 µg/cm2/week	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys.
			Release (eyewear frames):  EN 16128:2015	Eyewear frames: 0.5 µg/cm2/week	They can also occur as impurities in pigments and alloys.

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>MONOMERS</b>					
Styrene, Free	100-42-5		Extraction in Methanol GC/MS, sonication at 60 degrees C for 60 minutes	< 500 mg/kg	Styrene is a precursor for polymerization and may be present in various Styrene copolymers like plastic buttons.  Free styrene is restricted, not total styrene.
Vinyl Chloride	75-01-4		EN ISO 6401:2008	< 1 mg/kg	Vinyl Chloride is a precursor for polymerization and may be present in various PVC materials like prints, coatings, flip flops, and synthetic leather.
<b>N-NITROSAMINES</b>					
N-Nitrosodibutylamine (NDBA)	924-16-3				
N-Nitrosodiethylamine (NDEA)	55-18-5				
N-Nitrosodimethylamine (NDMA)	62-75-9				
N-Nitrosodipropylamine (NDPA)	621-64-7				
N-Nitrosomorpholine (NMOR)	59-89-2				
N-Nitroso-N-ethyl-N-phenylamine (NEPhA)	612-64-6				
N-Nitroso-N-methyl-N-phenylamine (NMPHA)	614-00-6				
N-Nitroso-piperidine (NPIP)	100-75-4				
N-Nitroso-pyrrolidine (NPYR)	930-55-2				
			GB/T 24153-2009: determination using GC/MS, with LC/MS/MS verification if positive.  Alternatively, LC/MS/MS may be performed on its own. EN ISO 19577:2019	< 0.5 mg/kg	Can be formed as by-product in the production of rubber.

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>ORGANOTIN COMPOUNDS</b>					
Tributyltin (TBT)	Various	EU: Regulation 1907/2006 REACH ANNEX XVII entry No.20	All materials: CEN ISO/TS 16179:2012 or EN ISO 22744-1:2020	< 0.5 mg/kg	<p>Class of chemicals combining tin and organics such as butyl and phenyl groups.</p> <p>Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterials), catalysts in plastic and glue production, and heat stabilizers in plastics/rubber.</p> <p>In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.</p>
Triphenyltin (TPHT)	Various				
Dibutyltin (DBT)	Various				
Diocetyl tin (DOT)	Various				
Monobutyltin (MBT)	Various			< 1 mg/kg each	
Tricyclohexyltin (TCyHT)	Various				
Triocetyl tin (TOT)	Various				
Tripropyltin (TPT)	Various				
Trimethyltin (TMT)	Various				
<b>OTHER CHEMICAL RESIDUES</b>					
Quinoline	91-22-5	EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12	All materials: DIN 54231:2005 with methanol extraction at 70 degrees C	< 50 mg/kg	<p>Found as an impurity in polyester and some dyestuffs.</p> <p>Quinoline can be included with disperse dye testing, as the same method is used for both.</p>
<b>OZONE DEPLETING SUBSTANCES</b>					
See Regulation (EC) No 1005/2009 for a complete list	Various	Regulation (EC) No 1005/2009	All materials: GC/MS headspace 120 degrees C for 45 minutes	< 5 mg/kg	<p>Prohibited from use.</p> <p>Ozone-depleting substances have been used as a foaming agent in PU foams as well as a dry cleaning agent.</p>



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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>PERFLUORINATED CHEMICALS AND HER COMPOUNDS (SEE APPENDIX A FOR INDIVIDUAL SUBSTANCES)</b>					
Perfluorooctane Sulfonates (PFOS) and related substances	1763-23-1 et.al.	EU: Regulation 2019/1021 on Persistent Organic Pollutants	All materials: EN ISO 23702-1	< 1µg / m <sup>2</sup> total	<p>PFOA and PFOS may be present as unintended byproducts in long-chain and short-chain commercial water-, oil-, and stain-repellent agents.</p> <p>PFOA may also be used in polymers like Polytetrafluoroethylene (PTFE).</p> <p>Refer to Appendix A for the full list of substances and CAS Numbers included in this restriction.</p> <p>In addition to this list, all PFOA-related substances are prohibited from use.</p>
Perfluorooctane Acid (PFOA) and it salts	754-91-6 et.al.			25 ppb total	
PFOA-related substances	307-35-7 et.al			1000 ppb total	
<b>PESTICIDES AGRICULTURAL (SEE APPENDIX B FOR INDIVIDUAL SUBSTANCES)</b>					
See Appendix B for the complete list page 33	Various	EU: Regulation 2019/1021 on Persistent Organic Pollutants	All materials: ISO 15913/DIN 38407 F2 or EPA 8081/EPA 8151A or BVL L 00.00-34:2010-09	< 0.5 mg/kg each	May be found in natural fibers, primarily cotton.

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>PHTHALATES</b>					
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	EU:REACH Regulation 1907/2006 Annex XVII entry No. 51	Sample preparation for all materials: CPSC-CH-C1001-09.4		Esters of ortho-phthalic acid (Phthalates) are a class of organic compound commonly added to plastics to increase flexibility.  They are sometimes used to facilitate the molding of plastic by decreasing its melting temperature.
Dibutyl phthalate (DBP)	84-74-2				
Butylbenzyl phthalate (BBP)	85-68-7				
Di-isobutyl phthalate (DIBP)	84-69-5				
Di-“isononyl” phthalate (DINP)	28553-12-0	EU: REACH Regulation 1907/2006 Annex XVII entry No.52 a,b,c	Measurement:  Textiles: GC/MS, EN ISO 14389:2014 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed).	< 500 mg/kg each  The sum of all Phthalates < 1000 mg/kg	Phthalates can be found in: <ul style="list-style-type: none"> <li>• Flexible plastic components (e.g., PVC) <ul style="list-style-type: none"> <li>• Print pastes</li> <li>• Adhesives</li> <li>• Plastic buttons</li> <li>• Plastic sleeveings</li> <li>• Polymeric coatings</li> </ul> </li> </ul> Listed here are all legally restricted phthalates as well as those included on the REACH substances of very high concern (SVHC) candidate list at the time of publication. Suppliers should assume that the RSL includes all phthalates on the SVHC list—whether itemized here or not— since the list is updated frequently.
Di-“isodecyl” phthalate (DIDP)	26761-40-0				
Di-n-octyl phthalate (DNOP)	117-84-0				
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6				
Di-isopentylphthalate (DIPP)	605-50-5	EU: REACH Regulation 1907/2006 Annex XVII entry 72 + appendix 12	All materials except textiles: GC/MS		
Di-n-pentyl phthalate (DPENP)	131-18-0				
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8				
Di-n-hexyl phthalate (DnHP)	84-75-3				

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>PHTHALATES CONTINUED</b>					
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	EU: Regulation 1907/2006 Candidate List	Sample preparation for all materials: CPSC-CH-C1001-09.4  Measurement:  Textiles: GC/MS, EN ISO 14389:2014 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed).  All materials except textiles: GC/MS	< 500 mg/kg each  The sum of all Phthalates < 1000 mg/kg	Esters of ortho-phthalic acid (Phthalates) are a class of organic compound commonly added to plastics to increase flexibility.  They are sometimes used to facilitate the molding of plastic by decreasing its melting temperature.  Phthalates can be found in: • Flexible plastic components (e.g., PVC) • Print pastes • Adhesives • Plastic buttons • Plastic sleeveings • Polymeric coatings  Listed here are all legally restricted phthalates as well as those included on the REACH substances of very high concern (SVHC) candidate list at the time of publication. Suppliers should assume that the RSL includes all phthalates on the SVHC list—whether itemized here or not— since the list is updated frequently.
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNU)	68515-42-4				
N-pentyl-isopentyl phthalate (NPIPP)	776297- 69-9				
Di-cyclohexylphthalate (DCHP)	84-61-7				
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DHxP)	68515-50-4				
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1				
Di-iso-hexylphthalate (DIHxP)	71850-09-4				
Di-n-propylphthalate (DPrP)	131-16-8				
Diethyl phthalate (DEP)	84-66-2				
Dimethyl phthalate (DMP)	131-11-3				
Di-iso-octyl phthalate (DIOP)	27554-26-3				

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SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)</b>					
Benzo(a)pyrene [BaP]	50-32-8	EUROPE: Regulation 1907/2006 REACH ANNEX XVII No.50	AfPS GS 2019	1 mg/kg each Total: < 10 mg/kg	<p>PAHs are natural components of crude oil and are common residues from oil refining.</p> <p>PAHs have a characteristic smell similar to that of car tires or asphalt.</p> <p>Oil residues containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers and coatings.</p> <p>PAHs are often found in the outsoles of footwear and in printing pastes for screen prints.</p> <p>PAHs can be present as impurities in Carbon Black. They also may be formed from thermal decomposition of recycled materials during reprocessing</p> <p>*Naphthalene: Dispersing agents for textile dyes may contain high residual naphthalene concentrations due to the use of low-quality Naphthalene derivatives (e.g., poor- quality Naphthalene Sulphonate Formaldehyde condensation products).</p>
Benzo(a)anthracene	56-55-3				
Chrysene	218-01-9				
Benzo(b)fluoranthene	205-99-2				
Benzo(k)fluoranthene	207-08-9				
Dibenzo(a,h)anthracene	53-70-3				
Benzo(e)pyrene	192-97-2				
Benzo(j)fluoranthene	205-82-3				
Acenaphthene	83-32-9			No individual restriction Total: < 10 mg/kg	
Acenaphthylene	208-96-8				
Antracene	120-12-7				
Benzo(g,h,i)perylene	191-24-2				
Fluoranthene	206-44-0				
Fluorene	86-73-7				
Indeno(1,2,3-cd)pyrene	193-39-5				
Naphthalene	91-20-3 *				
Phenanthrene	85-01-8				
Pyrene	129-00-0				

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Restricted Substances List version 1.0					
SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>RESTRICTION ON PACKAGING</b>					
Cadmium (Cd)	Various	EU Directive 94/62/EC	CEN/TR 13695-1 Acid digestion with ICP analysis	The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components shall not exceed 100 mg/kg	Packaging means transportation packaging as well as product packaging, i.e., any material used for the containment, protection, handling, delivery, and presentation of finished goods (article).
Lead (Pb)					
Chromium (Cr6+) - hexavalent					
Mercury (Hg)					
<b>SOLVENTS AND RESIDUALS</b>					
DMFa (N,N Dimethylformamide)	68-12-2	EU: REACH Regulation 1907/2006 Annex XVII entry 72 + appendix 12	Textiles: EN 17131:2019  All other materials: DIN CEN ISO/TS 16189:2013	< 500 mg/kg	DMFa is a solvent used in plastics, rubber, and polyurethane (PU) coating.  Water-based PU does not contain DMFa and is therefore preferable.
1-Methyl-2-pyrrolidone	872-50-4			< 1000 mg/kg	Industrial solvent used in production of water-based Polyurethanes and other polymeric materials.  May also be used as a surface treatment for textiles, resins, and metal-coated plastics, or as a paint stripper.
DMAC (N,N-dimethylacetamide)	127-19-5				Solvent used in the production of elastane fibers and sometimes as substitute for DMFa.
Formamide	75-12-7			EU: Regulation 1907/2006 Candidate List	Byproduct in the production of EVA foams.

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## Restricted Substances List version 1.0

SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>UV STABILISERS</b>					
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	EU: Regulation 1907/2006 Candidate List	DIN EN 62321-6:2016-05 (Extraction in THF, analysis by GC/MS)	< 1000 mg/kg each	<p>PU foam materials such as open cell foams for padding.</p> <p>Used as UV-absorbers for plastics (PVC, PET, PC, PA, ABS, and other polymers), rubber, polyurethane.</p>
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				
Drometrizole	2440-22-4			For informational purposes only. Josh V recommends testing to assess content levels.	Used as UV Absorbers for Plastics (PVC, PET, PC, PA, ABS, and other Polymers), Rubber, and Polyurethane.

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Restricted Substances List version 1.0					
SUBSTANCE	CAS NUMBER	REGULATION	TEST METHOD	JOSH V RESTRICTED LIMIT	POTENTIAL USES & ADDITIONAL INFORMATION
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>					
Benzene	71-43-2	EU: REACH Regulation 1907/2006 Annex XVII entry 72 + appendix 12	For general VOC screening: GC/MS headspace 45 minutes at 120 degrees C	< 5 mg/kg	<p>These VOCs should not be used in textile auxiliary chemical preparations.</p> <p>They are associated with solvent- based processes such as solvent- based polyurethane coatings and glues/adhesives.</p> <p>They should not be used for any kind of facility cleaning or spot cleaning.</p>
Carbon Disulfide	75-15-0				
Carbon Tetrachloride	56-23-5				
Chloroform	67-66-3				
Cyclohexanone	108-94-1				
1,2-Dichloroethane	107-06-2				
1,1-Dichloroethylene	75-35-4				
Ethylbenzene	100-41-4				
Pentachloroethane	76-01-7				
1,1,1,2- Tetrachloroethane	630-20-6				
1,1,2,2- Tetrachloroethane	79-34-5				
Tetrachloroethylene (PERC)	127-18-4				
Toluene	108-88-3				
1,1,1- Trichloroethane	71-55-6				
1,1,2- Trichloroethane	79-00-5				
Trichloroethylene	79-01-6				
Xylene	1330-20-7				
Orthoxylene	95-47-6				
Metaxylene	108-38-3				
Paraxylene	106-42-3				

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Appendix version 1.0					
SUBSTANCE	CAS NUMBER	SUBSTANCE	CAS NUMBER	SUBSTANCE	CAS NUMBER
<b>APPENDIX A. PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFCS)</b>					
<b>PFOS and Related Substances</b>		<b>PFOA and Its Salts</b>		<b>PFOA-related Substances</b>	
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	Perfluorooctanoic acid (PFOA)	335-67-1	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4
Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3	Sodium perfluorooctanoate (PFOA-Na)	335-95-5	Methyl perfluorooctanoate (Me-PFOA)	376-27-2
Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5	Potassium perfluorooctanoate (PFOA-K)	2395-00-8	Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5
Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH <sub>4</sub> )	29081-56-9	Silver perfluorooctanoate (PFOA-Ag)	335-93-3	2-Perfluorooctylethanol (8:2 FTOH)	678-39-7
Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) <sub>2</sub> )	70225-14-8	Perfluorooctanoyl fluoride (PFOA-F)	335-66-0	1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9
Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )	56773-42-3	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9
N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2				
N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8				
2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2				
2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7				
Perfluoro-1-octanesulfonyl fluoride (POSF)	307-35-7				
Perfluorooctane sulfonamide (PFOSA)	754-91-6				



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Appendix version 1.0					
SUBSTANCE	CAS NUMBER	SUBSTANCE	CAS NUMBER	SUBSTANCE	CAS NUMBER
<b>APPENDIX B. PESTICIDES AND HERBICIDES, AGRICULTURAL</b>					
2-(2,4,5-trichlorophenoxy) propionic acid, its salts and compounds; 2,4,5-TP	93-72-1	Dichlofluanide	1085-98-9	Kelevane	4234-79-1
2,4,5-T	93-76-5	Dichlorprop	120-36-5	Kepone	143-50-0
2,4-D	94-75-7	Dicofol	115-32-2	Lindane	58-89-9
Aldrine	309-00-2	Dicrotophos	141-66-2	Malathione	121-75-5
Azinophosmethyl	86-50-0	Dieldrine	60-57-1	MCPA	94-74-6
Azinophosethyl	2642-71-9	Dimethoate	60-51-5	MCPB	94-81-5
Bromophos-ethyl	4824-78-6	Dinoseb, Salts and Acetate	88-85-7	Mecoprop	93-65-2
Captafol	2425-06-1	DTTB (4, 6-Dichloro-7 (2,4,5-trichloro- phenoxy) - 2-Trifluoro methyl benz imidazole)	63405-99-2	Metamidophos	10265-92-6
Carbaryl	63-25-2	Endosulfan	115-29-7	Methoxychlor	72-43-5
Chlorbenzilat	510-15-6	Endosulfan, $\alpha$ -	959-98-8	Mirex	2385-85-5
Chlordane	57-74-9	Endosulfan, $\beta$ -	33213-65-9	Monocrotophos	6923-22-4
Chlordimeform	6164-98-3	Endrine	72-20-8	Parathion-methyl	298-00-0
Chlorfenvinphos	470-90-6	Esfenvalerate	66230-04-4	Pentachloroanisole	1825-21-4
Chlorthalonil	1897-45-6	Ethylendibromid	106-93-4	Phosdrin/Mevinphos	7786-34-7
Coumaphos	56-72-4	Ethylparathione; Parathion	56-38-2	Perthane	72-56-0
Cyfluthrin	68359-37-5	Fenvalerate	51630-58-1	Propethamphos	31218-83-4
Cyhalothrin	91465-08-6	Halogenated naphthalenes, including polychlorinated naphthalenes (PCNs)	Various	Profenophos	41198-08-7
Cypermethrin	52315-07-8	Heptachlor	76-44-8	Quinalphos	13593-03-8
S,S,S-Tributyl phosphorotrithioate (Tribufos)	78-48-8	Heptachlorepoxyde	1024-57-3	Quintozene	82-68-8
Deltamethrin	52918-63-5	a-Hexachlorcyclohexane with & without Lindane	319-84-6	Strobane	8001-50-1
DDD	53-19-0 72-54-8	b-Hexachlorcyclohexane with & without Lindane	319-85-7	TelodrinE	297-78-9
DDE	3424-82-6 72-55-9	g-Hexachlorcyclohexane with & without Lindane	319-86-8	Toxaphene	8001-35-2
DDT	50-29-3 789-02-6	Hexachlorobenzene	118-74-1	Tolyfluanide	731-27-1
Diazinon	333-41-5	Isodrine	465-73-6	Trifluralin	1582-09-8

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## REACH ANNEX: ECHA'S CANDIDATE LIST OF SUBSTANCES OF VERY HIGH CONCERN [LAST UPDATE 10-06-2022](#)

### NUMBER OF SUBSTANCES ON THE CANDIDATE LIST: 224

The European Chemicals Agency (ECHA) "CANDIDATE LIST OF SUBSTANCES OF VERY HIGH CONCERN FOR AUTHORISATION" can be accessed via the following link:

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

The identification of a substance as a Substance of Very High Concern (SVHC) and its inclusion in the Candidate List is the first step of the authorisation procedure.

Companies may have immediate legal obligations following such inclusion which are linked to the listed substance on its own, in preparations and articles.

Specific obligations exist for importers, producers, and suppliers (regardless of geographical location) of any article that contains one or more of these substances above 0.1 percent by weight per component (>1000 mg/kg)<sup>1</sup> These obligations include:

- Notify ECHA if the substance(s) are present in article components above 0.1 percent in quantities totalling over one ton per producer or importer per year<sup>2</sup> and register the products in the SCIP database.
- Notify JOSH V immediately and provide sufficient information to allow safe use of the article to JOSH V and other clients.
- Provide sufficient information, upon request, to allow safe use of the article to a consumer within 45 days of receipt of the request.

The candidate list is updated twice per year by ECHA. The candidate list provided within this RSL reflects the situation at the time of creation of the RSL. Suppliers, importers and producers should always follow the latest version which can be found via the link above.

<sup>1</sup> *European Court of Justice judgement of 10-09-2015 case C-106/14 referring to every constituent part of the article*

<sup>2</sup> *Notification is not required if the substance has already been registered for that use or when the producer or importer of an article can exclude exposure of humans and the environment during the use and disposal of the article. In such cases, the producer or importer must supply appropriate instructions to the recipient of the article.*

REACH Candidate List version 2.0				
Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
1	N-(hydroxymethyl)acrylamide	924-42-5	2022/06/10	Carcinogenic (Article 57a) Mutagenic (Article 57b)
2	Tris(2-methoxyethoxy)vinylsilane	1067-53-4	2022/01/17	Toxic for reproduction (Article 57c)
3	S-(tricyclo(5.2.1.0' <sup>2</sup> ,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	2022/01/17	PBT (Article 57d)
4	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	119-47-1	2022/01/17	Toxic for reproduction (Article 57c)
5	(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	-	2022/01/17	Endocrine disrupting properties (Article 57(f) - human health)

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## REACH Candidate List version 2.0

Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
6	Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	210555-94-5 27459-10-5 27147-75-7 121158-58-5 74499-35-7 57427-55-1	2021/07/08	Toxic for reproduction (Article 57c) Endocrine disrupting properties (Article 57(f) - environment) Endocrine disrupting properties (Article 57(f) - human health)
7	Orthoboric acid, sodium salt	25747-83-5 22454-04-2 14312-40-4 1333-73-9 13840-56-7 14890-53-0	2021/07/08	Toxic for reproduction (Article 57c)
8	Medium-chain chlorinated paraffins (MCCP) (UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17)	1372804-76-6 85535-85-9 - 198840-65-2	2021/07/08	PBT (Article 57d) vPvB (Article 57e)
9	Glutaral	111-30-8	2021/07/08	Respiratory sensitising properties (Article 57(f) - human health)
10	4,4'-(1-methylpropylidene)bisphenol	77-40-7	2021/07/08	Endocrine disrupting properties (Article 57(f) - environment) Endocrine disrupting properties (Article 57(f) - human health)
11	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers	75166-31-3 80-54-6 75166-30-2	2021/07/08	Toxic for reproduction (Article 57c)
12	2,2-bis(bromomethyl)propane-1,3-diol (BMP); 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA)	3296-90-0, 36483-57-5,  1522-92-5, 96-13-9	2021/07/08	Carcinogenic (Article 57a)
13	1,4-dioxane	123-91-1	2021/07/08	Carcinogenic (Article 57a) Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health) Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment)

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## REACH Candidate List version 2.0

Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
14	Diocetyl tin 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 dioctyl tin dilaurate; stannane, dioctyl-, bis(coco acyloxy) derivs. Diocetyl tin dilaurate Stannane, dioctyl-, bis(coco acyloxy) derivs.	3648-18-8 91648-39-4	2021/01/19	Toxic for reproduction (Article 57c)
15	Bis(2-(2-methoxyethoxy)ethyl)ether	143-24-8	2021/01/19	Toxic for reproduction (Article 57c)
16	Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	2020/06/25	Toxic for reproduction (Article 57c)
17	butyl 4-hydroxybenzoate	94-26-8	2020/06/25	Endocrine disrupting properties (Article 57(f) - human health)
18	2-methylimidazole	693-98-1	2020/06/25	Toxic for reproduction (Article 57c)
19	1-vinylimidazole	1072-63-5	2020/06/25	Toxic for reproduction (Article 57c)
20	Perfluorobutane sulfonic acid (PFBS) and its salts	-	2020/01/16	Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health) Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment)
21	Diisohexyl phthalate	71850-09-4	2020/01/16	Toxic for reproduction (Article 57c)
22	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	2020/01/16	Toxic for reproduction (Article 57c)
23	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	2020/01/16	Toxic for reproduction (Article 57c)
24	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides	-	2019/07/16	Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health) Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment)
25	2-methoxyethyl acetate	110-49-6	2019/07/16	Toxic for reproduction (Article 57c)
26	4-tert-butylphenol	98-54-4	2019/07/16	Endocrine disrupting properties (Article 57(f) - environment)
27	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	-	2019/07/16	Endocrine disrupting properties (Article 57(f) - environment)
28	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	15087-24-8	2019/01/15	Endocrine disrupting properties (Article 57(f) - environment)

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REACH Candidate List version 2.0				
Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
29	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	2019/01/15	Toxic for reproduction (Article 57c)
30	Benzo[k]fluoranthene	207-08-9	2019/01/15	Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)
31	Fluoranthene	206-44-0 93951-69-0	2019/01/15	PBT (Article 57d) vPvB (Article 57e)
32	Phenanthrene	85-01-8	2019/01/15	vPvB (Article 57e)
33	Pyrene	129-00-0 1718-52-1	2019/01/15	PBT (Article 57d) vPvB (Article 57e)
34	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride	552-30-7	2018/06/27	Respiratory sensitising properties (Article 57(f) - human health)
35	Benzo[ghi]perylene	191-24-2	2018/06/27	PBT (Article 57d) vPvB (Article 57e)
36	Decamethylcyclopentasiloxane	541-02-6	2018/06/27	PBT (Article 57d) vPvB (Article 57e)
37	Dicyclohexyl phthalate (DCHP)	84-61-7	2018/06/27	Toxic for reproduction (Article 57c) Endocrine disrupting properties (Article 57(f) - human health)
38	Disodium octaborate	12008-41-2	2018/06/27	Toxic for reproduction (Article 57c)
39	Dodecamethylcyclohexasiloxane	540-97-6	2018/06/27	PBT (Article 57d) vPvB (Article 57e)
40	Ethylenediamine	107-15-3	2018/06/27	Respiratory sensitising properties (Article 57(f) - human health)
41	Lead	7439-92-1	2018/06/27	Toxic for reproduction (Article 57c)
42	Octamethylcyclotetrasiloxane	556-67-2	2018/06/27	PBT (Article 57d) vPvB (Article 57e)
43	Terphenyl, hydrogenated	61788-32-7	2018/06/27	vPvB (Article 57e)
44	Benz[a]anthracene	56-55-3 1718-53-2	2018/01/15	Carcinogenic (Article 57a) PBT (Article 57d)
45	Cadmium carbonate	513-78-0	2018/01/15	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
46	Cadmium hydroxide	21041-95-2	2018/01/15	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)

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## REACH Candidate List version 2.0

Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
47	Cadmium nitrate	10022-68-1 10325-94-7	2018/01/15	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
48	Chrysene	218-01-9 1719-03-5	2018/01/15	Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)
49	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination there of]	-	2018/01/15	vPvB (Article 57e)
50	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]	-	2018/01/15	Endocrine disrupting properties (Article 57(f) - environment)
51	Perfluorohexane-1-sulphonic acid and its salts	-	2017/07/07	vPvB (Article 57e)
52	4,4'-isopropylidenediphenol Bisphenol A; BPA	80-05-7	2017/01/12	Toxic for reproduction (Article 57 c)
53	4-heptylphenol, branched and linear substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof	-	2017/01/12	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
54	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3830-45-3 3108-42-7 335-76-2	2017/01/12	Toxic for reproduction (Article 57 c) PBT (Article 57 d)
55	p-(1,1-dimethylpropyl)phenol	80-46-6	2017/01/12	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
56	Benzo(def)chrysene	50-32-8	2016/20/06	Carcinogenic (Article 57a); Mutagenic (Article 57b); Toxic for reproduction (Article 57c); PBT (Article 57 d); vPvB (Article 57 e)
57	1,3-propanesultone	1120-71-4	2015/12/17	Carcinogenic (Article 57a);
58	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	2015/12/17	vPvB (Article 57e)
59	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	2015/12/17	vPvB (Article 57e)
60	Nitrobenzene	98-95-3	2015/12/17	Toxic for reproduction (Article 57 c)
61	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	2015/12/17	Toxic for reproduction (Article 57 c) PBT (Article 57 d)

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## REACH Candidate List version 2.0

Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
62	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1	2015/06/15	Toxic for reproduction (Article 57 c)
63	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	-	2015/06/15	vPvB (Article 57e)
64	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	2014/12/17; 2008/10/28	Equivalent level of concern having probable serious effects to the environment (Article 57 f); Toxic for reproduction (article 57c)
65	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	2014/12/17	Toxic for reproduction (Article 57 c)
66	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	2014/12/17	PBT (Article 57 d); vPvB (Article 57 e)
67	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 (reaction mass of DOTE and MOTE)	-	2014/12/17	Toxic for reproduction (Article 57 c)
68	Cadmium fluoride	7790-79-6	2014/12/17	Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f)
69	Cadmium sulphate	10124-36-4 31119-53-6	2014/12/17	Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f)
70	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	2014/12/17	PBT (Article 57 d); vPvB (Article 57 e)
71	Cadmium chloride	10108-64-2	2014/06/16	Carcinogenic (Article 57a); Mutagenic (Article 57b); Toxic for reproduction (Article 57c); Equivalent level of concern having probable serious effects to human health (Article 57 f)
72	Sodium peroxometaborate	7632-04-4	2014/06/16	Toxic for reproduction (Article 57 c)
73	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	2014/06/16	Toxic for reproduction (Article 57 c)
74	Sodium perborate; perboric acid, sodium salt	-	2014/06/16	Toxic for reproduction (Article 57 c)
75	Trixylyl phosphate	25155-23-1	2013/12/16	Toxic for reproduction (Article 57 c);
76	Lead di(acetate)	301-04-2	2013/12/16	Toxic for reproduction (Article 57 c);
77	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	2013/12/16	Toxic for reproduction (Article 57 c);
78	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	2013/12/16	Carcinogenic (Article 57a);

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Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
79	Cadmium sulphide	1306-23-6	2013/12/16	Carcinogenic (Article 57a);
80	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	2013/12/16	Carcinogenic (Article 57a);
81	Dihexyl phthalate	84-75-3	2013/12/16	Toxic for reproduction (Article 57 c);
82	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	2013/06/20	Toxic for reproduction (Article 57 c);
83	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	2013/06/20	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
84	Pentadecafluorooctanoic acid (PFOA)	335-67-1	2013/06/20	Toxic for reproduction (Article 57 c);
85	Dipentyl phthalate (DPP)	131-18-0	2013/06/20	Toxic for reproduction (Article 57 c);
86	Cadmium	7440-43-9	2013/06/20	Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)
87	Cadmium oxide	1306-19-0	2013/06/20	Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)
88	4,4'-methylenedi-o-toluidine	838-88-0	2012/12/19	Carcinogenic (Article 57a)
89	N-pentyl-isopentylphthalate	776297-69-9	2012/12/19	Toxic for reproduction (Article 57 c)
90	4-Aminoazobenzene	60-09-3	2012/12/19	Carcinogenic (Article 57a)
91	Orange lead (lead tetroxide)	1314-41-6	2012/12/19	Toxic for reproduction (Article 57 c)
92	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	2012/12/19	Toxic for reproduction (Article 57 c)
93	Dimethyl sulphate	77-78-1	2012/12/19	Carcinogenic (Article 57a)
94	Heptacosafuorotetradecanoic acid	376-06-7	2012/12/19	vPvB (Article 57 e)
95	Lead titanium zirconium oxide	12626-81-2	2012/12/19	Toxic for reproduction (Article 57 c)
96	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	2012/12/19	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
97	6-methoxy-m-toluidine (p-cresidine)	120-71-8	2012/12/19	Carcinogenic (Article 57a)
98	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	2012/12/19	Toxic for reproduction (Article 57 c)
99	1,2-Diethoxyethane	629-14-1	2012/12/19	Toxic for reproduction (Article 57 c)
100	Sulfurous acid, lead salt, dibasic	62229-08-7	2012/12/19	Toxic for reproduction (Article 57 c)
101	1-bromopropane (n-propyl bromide)	106-94-5	2012/12/19	Toxic for reproduction (Article 57 c)
102	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	2012/12/19	PBT (Article 57 d); vPvB (Article 57 e)
103	Biphenyl-4-ylamine	92-67-1	2012/12/19	Carcinogenic (Article 57a)
104	Pentalead tetraoxide sulphate	12065-90-6	2012/12/19	Toxic for reproduction (Article 57 c)
105	Silicic acid, lead salt	11120-22-2	2012/12/19	Toxic for reproduction (Article 57 c)



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Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
106	o-Toluidine	95-53-4	2012/12/19	Carcinogenic (Article 57a)
107	Acetic acid, lead salt, basic	51404-69-4	2012/12/19	Toxic for reproduction (Article 57 c)
108	Dioxobis(stearato)trilead	12578-12-0	2012/12/19	Toxic for reproduction (Article 57 c)
109	Lead bis(tetrafluoroborate)	13814-96-5	2012/12/19	Toxic for reproduction (Article 57 c)
110	Lead dinitrate	10099-74-8	2012/12/19	Toxic for reproduction (Article 57 c)
111	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	2012/12/19	Toxic for reproduction (Article 57 c)
112	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7 13149-00-3 14166-21-3	2012/12/19	Equivalent level of concern having probable serious effects to human health (Article 57 f)
113	N-methylacetamide	79-16-3	2012/12/19	Toxic for reproduction (Article 57 c)
114	Pyrochlore, antimony lead yellow	8012-00-8	2012/12/19	Toxic for reproduction (Article 57 c)
115	Lead monoxide (lead oxide)	1317-36-8	2012/12/19	Toxic for reproduction (Article 57 c)
116	Tetralead trioxide sulphate	12202-17-4	2012/12/19	Toxic for reproduction (Article 57 c)
117	Trilead bis(carbonate)dihydroxide	1319-46-6	2012/12/19	Toxic for reproduction (Article 57 c)
118	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	2012/12/19	Equivalent level of concern having probable serious effects to human health (Article 57 f)
119	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	2012/12/19	Toxic for reproduction (Article 57 c)
120	N,N-dimethylformamide	68-12-2	2012/12/19	Toxic for reproduction (Article 57 c)
121	Tetraethyllead	78-00-2	2012/12/19	Toxic for reproduction (Article 57 c)
122	Methyloxirane (Propylene oxide)	75-56-9	2012/12/19	Carcinogenic (Article 57a); Mutagenic (Article 57b)
123	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-	2012/12/19	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
124	Fatty acids, C16-18, lead salts	91031-62-8	2012/12/19	Toxic for reproduction (Article 57 c)
125	Trilead dioxide phosphonate	12141-20-7	2012/12/19	Toxic for reproduction (Article 57 c)
126	o-aminoazotoluene	97-56-3	2012/12/19	Carcinogenic (Article 57a)
127	[Phthalato(2-)]dioxotrilead	69011-06-9	2012/12/19	Toxic for reproduction (Article 57 c)
128	Tricosafuorododecanoic acid	307-55-1	2012/12/19	vPvB (Article 57 e)

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Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
129	Lead oxide sulfate	12036-76-9	2012/12/19	Toxic for reproduction (Article 57 c)
130	Methoxyacetic acid	625-45-6	2012/12/19	Toxic for reproduction (Article 57 c)
131	Diisopentylphthalate	605-50-5	2012/12/19	Toxic for reproduction (Article 57 c)
132	Lead cyanamidate	20837-86-9	2012/12/19	Toxic for reproduction (Article 57 c)
133	4,4'-oxydianiline and its salts	101-80-4	2012/12/19	Carcinogenic (Article 57a); Mutagenic (Article 57b)
134	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	2012/12/19	Carcinogenic (Article 57a)
135	Henicosfluoroundecanoic acid	2058-94-8	2012/12/19	vPvB (Article 57 e)
136	Furan	110-00-9	2012/12/19	Carcinogenic (Article 57a)
137	Pentacosfluorotridecanoic acid	72629-94-8	2012/12/19	vPvB (Article 57 e)
138	Diethyl sulphate	64-67-5	2012/12/19	Carcinogenic (Article 57a); Mutagenic (Article 57b)
139	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0 19438-60-9 48122-14-1 57110-29-9	2012/12/19	Equivalent level of concern having probable serious effects to human health (Article 57 f)
140	Dibutyltin dichloride (DBTC)	683-18-1	2012/12/19	Toxic for reproduction (Article 57 c)
141	Lead titanium trioxide	12060-00-3	2012/12/19	Toxic for reproduction (Article 57 c)
142	Formamide	75-12-7	2012/06/18	Toxic for reproduction (Article 57 c)
143	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	2012/06/18	Carcinogenic (Article 57a)
144	Diboron trioxide	1303-86-2	2012/06/18	Toxic for reproduction (Article 57 c)
145	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	2012/06/18	Carcinogenic (Article 57a)
146	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	2012/06/18	Toxic for reproduction (Article 57 c)
147	Lead(II) bis(methanesulfonate)	17570-76-2	2012/06/18	Toxic for reproduction (Article 57 c)
148	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	2012/06/18	Carcinogenic (Article 57a)
149	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	2012/06/18	Mutagenic (Article 57b)
150	4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	2012/06/18	Carcinogenic (Article 57a)
151	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	2012/06/18	Carcinogenic (Article 57a)

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Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
152	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	2012/06/18	Carcinogenic (Article 57a)
153	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	2012/06/18	Mutagenic (Article 57b)
154	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	2012/06/18	Toxic for reproduction (Article 57 c)
155	Lead styphnate	15245-44-0	2011/12/19	Toxic for reproduction (article 57 c)
156	Calcium arsenate	7778-44-1	2011/12/19	Carcinogenic (article 57 a)
157	Bis(2-methoxyethyl) ether	111-96-6	2011/12/19	Toxic for reproduction (article 57 c)
158	Phenolphthalein	77-09-8	2011/12/19	Carcinogenic (article 57 a)
159	Arsenic acid	7778-39-4	2011/12/19	Carcinogenic (article 57 a)
160	2-Methoxyaniline; o-Anisidine	90-04-0	2011/12/19	Carcinogenic (article 57 a)
161	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	2011/12/19	Carcinogenic (article 57 a)
162	Bis(2-methoxyethyl) phthalate	117-82-8	2011/12/19	Toxic for reproduction (article 57 c)
163	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	2011/12/19	Equivalent level of concern having probable serious effects to the environment (article 57 f)
164	Dichromium tris(chromate)	24613-89-6	2011/12/19	Carcinogenic (article 57 a)
165	Pentazinc chromate octahydroxide	49663-84-5	2011/12/19	Carcinogenic (article 57 a)
166	Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm) c) alkaline oxide and alkali earth oxide (Na <sub>2</sub> O+K <sub>2</sub> O+CaO+MgO+BaO) content less or equal to 18% by weight	-	2011/12/19	Carcinogenic (article 57 a)
167	Lead dipicrate	6477-64-1	2011/12/19	Toxic for reproduction (article 57 c)
168	N,N-dimethylacetamide	127-19-5	2011/12/19	Toxic for reproduction (article 57 c)
169	1,2-dichloroethane	107-06-2	2011/12/19	Carcinogenic (article 57 a)
170	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	2011/12/19	Carcinogenic (article 57 a)
171	Trilead diarsenate	3687-31-8	2011/12/19	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
172	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	2011/12/19	Carcinogenic (article 57 a)

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Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
173	Lead diazide, Lead azide	13424-46-9	2011/12/19	Toxic for reproduction (article 57 c),
174	Zirconia Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm). c) alkaline oxide and alkali earth oxide (Na <sub>2</sub> O+K <sub>2</sub> O+CaO+MgO+BaO) content less or equal to 18% by weight		2011/12/19	Carcinogenic (article 57 a)
175	Cobalt dichloride	7646-79-9	2011/06/20 - 2008/10/28	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
176	1-Methyl-2-pyrrolidone	872-50-4	2011/06/20	Toxic for reproduction (article 57c)
177	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	2011/06/20	Toxic for reproduction (article 57c)
178	Hydrazine	302-01-2 7803-57-8	2011/06/20	Carcinogenic (article 57a)
179	1,2,3-Trichloropropane	96-18-4	2011/06/20	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
180	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	2011/06/20	Toxic for reproduction (article 57c)
181	Strontium chromate	7789-06-2	2011/06/20	Carcinogenic (article 57a)
182	2-Ethoxyethyl acetate	111-15-9	2011/06/20	Toxic for reproduction (article 57c)
183	2-Ethoxyethanol	110-80-5	2010/12/15	Toxic for reproduction (article 57c)
184	Cobalt(II) diacetate	71-48-7	2010/12/15	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
185	Cobalt(II) carbonate	513-79-1	2010/12/15	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
186	Cobalt(II) sulphate	10124-43-3	2010/12/15	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
187	Acids generated from chromium trioxide and their oligomers. Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid.	7738-94-5 13530-68-2	2010/12/15	Carcinogenic (article 57a)
188	Cobalt(II) dinitrate	10141-05-6	2010/12/15	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
189	Chromium trioxide	1333-82-0	2010/12/15	Carcinogenic and mutagenic (articles 57 a and 57 b)
190	2-Methoxyethanol	109-86-4	2010/12/15	Toxic for reproduction (article 57c)
191	Trichloroethylene	79-01-6	2010/06/18	Carcinogenic (article 57 a)
192	Sodium chromate	7775-11-3	2010/06/18	Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c)

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Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
193	Boric acid	10043-35-3 11113-50-1	2010/06/18	Toxic for reproduction (article 57 c)
194	Potassium chromate	7789-00-6	2010/06/18	Carcinogenic and mutagenic (articles 57 a and 57 b).
195	Tetraboron disodium heptaoxide, hydrate	12267-73-1	2010/06/18	Toxic for reproduction (article 57 c)
196	Potassium dichromate	7778-50-9	2010/06/18	Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c)
197	Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	2010/06/18	Toxic for reproduction (article 57 c)
198	Ammonium dichromate	7789-09-5	2010/06/18	Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c)
199	Acrylamide	79-06-1	2010/03/30	Carcinogenic and mutagenic (articles 57 a and 57 b)
200	2,4-Dinitrotoluene	121-14-2	2010/01/13	Carcinogenic (article 57a)
201	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	2010/01/13	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
202	Anthracene oil, anthracene-low	90640-82-7	2010/01/13	Carcinogenic <sup>2</sup> , mutagenic <sup>3</sup> , PBT and vPvB (articles 57a, 57b, 57d and 57e)
203	Pitch, coal tar, high temp.	65996-93-2	2010/01/13	Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e)
204	Anthracene oil, anthracene paste	90640-81-6	2010/01/13	Carcinogenic <sup>2</sup> , mutagenic <sup>3</sup> , PBT and vPvB (articles 57a, 57b, 57d and 57e)
205	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	2010/01/13	Carcinogenic and toxic for reproduction (articles 57 a and 57 c))
206	Lead chromate	7758-97-6	2010/01/13	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
207	Anthracene oil	90640-80-5	2010/01/13	Carcinogenic <sup>1</sup> , PBT and vPvB (articles 57a, 57d and 57e)
208	Diisobutyl phthalate	84-69-5	2010/01/13	Toxic for reproduction (article 57c)
209	Tris(2-chloroethyl)phosphate	115-96-8	2010/01/13	Toxic for reproduction (article 57c)
210	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	2010/01/13	Carcinogenic <sup>2</sup> , mutagenic <sup>3</sup> , PBT and vPvB (articles 57a, 57b, 57d and 57e)
211	Anthracene oil, anthracene paste, distn. lights	91995-17-4	2010/01/13	Carcinogenic <sup>2</sup> , mutagenic <sup>3</sup> , PBT and vPvB (articles 57a, 57b, 57d and 57e)
212	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	2008/10/28	Carcinogenic (article 57a)
213	Triethyl arsenate	15606-95-8	2008/10/28	Carcinogenic (article 57a)
214	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	2008/10/28	vPvB (article 57e)
215	Benzyl butyl phthalate (BBP)	85-68-7	2008/10/28	Toxic for reproduction (article 57c)

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Nr.	Substance Name	Cas Number	Date of inclusion	Reason for inclusion
216	Sodium dichromate	7789-12-0 10588-01-9	2008/10/28	Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c)
217	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	2008/10/28	PBT and vPvB (articles 57 d and 57 e)
218	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	2008/10/28	PBT (article 57d)
219	Anthracene	120-12-7	2008/10/28	PBT (article 57d)
220	Dibutyl phthalate (DBP)	84-74-2	2008/10/28	Toxic for reproduction (article 57c)
221	Lead hydrogen arsenate	7784-40-9	2008/10/28	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
222	Diarsenic trioxide	1327-53-3	2008/10/28	Carcinogenic (article 57a)
223	Diarsenic pentaoxide	1303-28-2	2008/10/28	Carcinogenic (article 57a)
224	Bis(tributyltin)oxide (TBTO)	56-35-9	2008/10/28	PBT (article 57d)