GREEN BOOK

Eco Requirements for Apparel/Equipment/Footwear

Restricted Harmful Substances and Chemical Management

Version August 2021

1 *JACK WOLFSKIN Restricted Substances List (RSL)*

1.1 Restrictions on harmful substances in Apparel, Footwear and Equipment products

RESTRICTED SUBSTANCES		CAS - No.	APPAREL & FOOTWEAR & EQUIPMENT CATEGORY I: Materials used for baby and children's products (Apparel: ≤ size 104, Footwear: all kids' sizes) CATEGORY II: Materials with skin contact (with accessible surfaces) CATEGORY III: Materials without skin contact (fully covered materials; e.g. padding, interlining) LIMIT VALUES (for every single substance unless specified otherwise)	TEST METHODS	A Natural fibers	B Synthetic fibers	C Leather	D Bonded Leather (LEFA)	E Polymers	F Foams	G Metal	H Coatings	I Prints	J Packaging	K Paper, cardboard
						This matrix shall help all concerned parties to obtain knowledge on which substances stand in relation to which material groups. Nevertheless, all given restrictions are still valid for all used materials.										
GB-01	**Arylamines (including corresponding salts; as substance from Azo colorants which, by reductive cleavage of one or more Azo groups, may release one or more of the aromatic amines)**	please refer to Appendix	usage ban (20 mg/kg)	Textile: (with and without extraction): LFGB §64, BVL B82.02-2 & LFGB §64, BVL B82.02-4 (EN 14362-1) Leather: LFGB §64, BVL B82.02-3 (EN ISO 17234-1) 4-Aminoazobenzene: LFGB §64, BVL B82.02-15 (textile: EN 14362-3), LFGB §64, BVL B82.02-9 (leather: DIN EN ISO 17234-2)	■	■	■	■				■	■	■	
GB-02	**Allergenic dyestuffs**	please refer to Appendix	usage ban (20 mg/kg)	BVL B82.02-10 (DIN 54231)	■	■						■	■		
GB-03	**Carcinogenic dyestuffs**	please refer to Appendix	usage ban (20 mg/kg)		■	■						■	■		
GB-04	**Other banned dyestuffs**	please refer to Appendix	usage ban (20 mg/kg)		■	■						■	■		
GB-05	**Alkylphenols (AP)**														
	Nonylphenols (NP)	25154-52-3	usage ban (traces 10 mg/kg)	Textile: ISO 18254-1 Leather: ISO 18218-1	■	■	■	■	■	■		■	■		
	Octylphenols (OP)	6472-91-9			■	■	■	■	■	■		■	■		
GB-06	**Alkylphenolethoxylates (APEO)**														
	Nonylphenolethoxylates (NPEO)	several	usage ban (traces 100 mg/kg)	Textile: DIN EN ISO 18254-1 Leather: ISO 18218-1	■	■	■	■	■	■		■	■		
	Octylphenolethoxylates (OPEO)	several			■	■	■	■	■	■		■	■		

GB-07	**Chlorinated phenols**																	
	Pentachlorophenol (PCP), salts, esters and compounds	87-86-5	usage ban (traces 0.05 mg/kg for sum of PCP)	usage ban (traces 0.5 mg/kg for sum of PCP)		Extraction with KOH // §64 LFGB B 82.02-8 or DIN EN ISO 17070	■	■	■	■				■	■	paper only	■
			usage ban (traces 0.5 mg/kg for sum of PCP (leather))															
	Tetrachlorophenols (TetraCP), salts and compounds	25167-83-3	usage ban (traces 0.05 mg/kg for sum of TetraCP)	usage ban (traces 0.5 mg/kg for sum of TetraCP)			■	■	■	■				■	■		■
			usage ban (traces 0.5 mg/kg for sum of TetraCP (leather))															
	Trichlorophenols (TriCP), all isomers	25167-82-2	usage ban (traces 0.5 mg/kg for sum of TriCP)						■	■								
	Monochlorophenols (MonoCP), all isomers	25167-80-0	usage ban (traces 1 mg/kg sum of MonoCP and DiCP)				■	■	■	■				■	■		■
	Dichlorophenols (DiCP), all isomers	25167-81-1					■	■	■	■				■	■		■
GB-08	**Orthophenylphenol (OPP)**	90-43-7	50 mg/kg			Extraction with KOH // §64 LFGB B 82.02-8 or DIN EN ISO 17070	■	■						■	■		■
GB-09	**2,4-Dinitrotoluene**	121-14-2	10 mg/kg			Solvent extraction / GC-MS or Multiple Headspace / GC-MS	■	■	■	■					■		
GB-10	**Chlorinated-Benzenes and Toluenes (e.g. carrier, solvent)**	please refer to Appendix	usage ban (traces 1 mg/kg)			Extraction with Dichloromethane / GC-MS (DIN 54232)		■	■	■		■		■	■		
GB-11	**Dimethylfumarate (DMFu)**	624-49-7	usage ban (0.1 mg/kg)			Extraction with organic solvent / GC-MS, DIN CEN ISO/TS 16186	■	■	■	■						silica gel only	
GB-12	**Formaldehyde**	50-00-0	usage ban (16 mg/kg)	75 mg/kg	120 mg/kg	Textile: DIN EN ISO 14184-1 / Japanese Law 112 Leather: DIN EN ISO 17226-1 Paper, cardboard: EN 120	■	■	■	■				■	■		■

GB-13	**Extractable heavy metals**																	
	Antimony (Sb)	7440-36-0	5 mg/kg	10 mg/kg	For textiles: DIN-EN 16711-2 (acidic sweat solution) For leather: ISO 17072-1 (acidic sweat solution)	■	■	■	■									
	Arsenic (As)	7440-38-2	usage ban (0.2 mg/kg)			■	■	■	■									
	Lead (Pb)	7439-92-1	usage ban (traces 0.2 mg/kg)	usage ban (traces 1 mg/kg)		■	■	■	■									
	Cadmium (Cd)	7440-43-9	usage ban (traces 0.1 mg/kg)			■	■	■	■									
	Chromium (Cr)	7440-47-3	usage ban with exception of leather (traces 1 mg/kg)	usage ban with exception of leather (traces 2 mg/kg)		■	■											
	Cobalt (Co)	7440-48-4	usage ban (traces 1 mg/kg)	usage ban (traces 4 mg/kg)		■	■	■	■									
	Copper (Cu)	7440-50-8	25 mg/kg	50 mg/kg		■	■	■	■									
	Nickel (Ni)	7440-02-0	usage ban (traces 1 mg/kg)	usage ban (traces 4 mg/kg)		■	■	■	■									
	Mercury (Hg)	7439-97-6	usage ban (traces 0.02 mg/kg)			■	■	■	■									
	Barium	7440-39-3	100 mg/kg			■	■	■	■									
	Selenium (Se)	7782-49-2	500 mg/kg			■	■	■	■									
GB-14	**Nickel release**	7440-02-0	0.5 µg/cm²/week		LFGB §64, BVL B82.02-6 (DIN EN ISO 1811) LFGB §64, BVL B82.02-7 (DIN EN 12472)							■						
GB-15	**Chromium (Cr) VI**	18540-29-9	usage ban (0.5 mg/kg)		Textile: with reference to DIN EN ISO 17075-1 + 17075-2 Leather: DIN EN ISO 17075-1 + 17075-2	wool only		■	■									
			usage ban (3 mg/kg (leather))															
GB-16	**Heavy metals in digested sample**																	
	Total Lead (Pb)	7439-92-1	40 mg/kg		For textiles and others: DIN EN 16711-1 For leather: ISO 17072-2 For metal parts: DIN EN 16711-1 Lead: in addition Annex XVII to Regulation (EC) No 1907/2006 (REACH), column 2 of entry 63 is valid		■	■	■	■	■	■	■	■			
			90 mg/kg (metal)															
	Total Cadmium (Cd)	7440-43-9	40 mg/kg				■	■	■	■	■	■	■	■			
			40 mg/kg (metal)															
	Total Arsenic (As)	7440-38-2	100 mg/kg				■	■	■	■	■	■	■	■			
	Total Mercury (Hg)	7439-97-6	0.5 mg/kg		Leather: DIN EN ISO 17072-2 Others: DIN EN 16711-1		■	■	■	■	■	■	■	■			
			1000 mg/kg (metal)		GB 28021 Acid digestion/ ICP analysis							■						
	Total Chromium VI (Cr VI)	18540-29-9	1000 mg/kg (metal)		GB 28019 UV spectroscopy							■						

GB-17	**Organotin compounds**															
	Dibutyltin (DBT)	14488-53-0	usage ban (traces 1 mg/kg)	All materials: CEN ISO/TS 16179:2012 or EN ISO 22744-1:2020)			■	■	■	■		■	■		
	Tributyltin (TBT)	36643-28-4	usage ban (0.05 mg/kg)				■	■	■	■		■	■		
	Monobutyltin (MBT)	78763-54-9	usage ban (traces 1 mg/kg)				■	■	■	■		■	■		
	Triphenyltin (TPhT)	668-34-8	usage ban (0.05 mg/kg)				■	■	■	■		■	■		
	Dioctyltin (DOT)	15231-44-4	usage ban (traces 1 mg/kg)				■	■	■	■		■	■		
	Monooctyltin (MOT)	several	usage ban (traces 2 mg/kg)				■	■	■	■		■	■		
	Tetrabutyltin (TeBT)	1461-25-2	usage ban (0.5 mg/kg)				■	■	■	■		■	■		
	Tetraoctyltin (TeOT)	3590-84-9	usage ban (0.5 mg/kg)				■	■	■	■		■	■		
	Tricyclohexyltin (TricycloHT)	several	usage ban (0.5 mg/kg)				■	■	■	■		■	■		
	Dimethyltin compounds (DMT)	several	usage ban (0.05 mg/kg)				■	■	■	■		■	■		
	Trimethyltin compounds (TMT)	several	usage ban (0.05 mg/kg)				■	■	■	■		■	■		
	Tripropyltin compounds (TPT)	several	usage ban (0.05 mg/kg)				■	■	■	■		■	■		
	Diphenyltin compounds (DPhT)	several	usage ban (traces 2 mg/kg)				■	■	■	■		■	■		
	Monomethyltin compounds (MMT)	several	usage ban (traces 2 mg/kg)				■	■	■	■		■	■		
	Trioctyltin compounds (TOT)	several	usage ban (0.05 mg/kg)				■	■	■	■		■	■		
	Dipropyltin (DPT)	several	usage ban (traces 1 mg/kg)				■	■	■	■		■	■		
	Monophenyltin (MPhT)	several	usage ban (traces 1 mg/kg)				■	■	■	■		■	■		
	Tetraethyltin (TeET)	several	usage ban (traces 1 mg/kg)				■	■	■	■		■	■		
GB-18	**Perfluorooctansulfonates (PFOS)** *(note information page 3)*	several	usage ban (1 µg/m²)	Extraction with Methanol / LC-MS, CEN/TS 15968	■	■	■	■		■		■			
	Perfluorooctanoic acid (PFOA) it´s salts, esters and related substances *(note information page 3)*	335-67-1 and others	usage ban (25 ppb)		■	■	■	■		■		■			

GB-19	**Short chain chlorinated paraffins $_{C10-C13}$ (SCCP)**	85535-84-8	usage ban (30 mg/kg) / 100 mg/kg (leather)		Extraction with organic solvent / GC-MS, DIN EN ISO 18219			■	■	■			■	■			
GB-20	**Medium chain chlorinated paraffins $_{C14-C17}$ (MCCP)**	85535-85-9	100 mg/kg (leather)		Extraction with organic solvent / GC-MS, DIN EN ISO 18219			■	■								
GB-21	**Soluble mineral tanning agents**																
	Aluminium (Al)	91728-14-2	50 mg/kg (for sum of soluble mineral tanning agents)	100 mg/kg (for sum of soluble mineral tanning agents)	Extraction with saliva solution acc. to LFGB §64, BVL B82.10-1 (Cat. I), determination acc. to DIN EN ISO 17294-2 (ICP-MS) / Extraction with acid perspiration solution acc. to prEN 16711-2 (Cat. II + III)			■	■								
	Chromium (Cr)	7440-47-3															
	Titanium (Ti)	7440-32-6															
	Zirconium (Zi)	7440-99-6															
GB-22	**Isocyanates**	please refer to Appendix	1 mg/kg (for sum of Isocyanates)		Extraction with DCM and derivatisation with 9-(methylaminomethyl)anthracene / HPLC with reference to EN 13130-8					■	■		■	■			
GB-23	**Polyaromatic hydrocarbons (PAHs)**	-	usage ban (traces 10 mg/kg for sum of 18 PAHs)														
	Benzo(a)pyrene	50-32-8	usage ban (traces 0.2 mg/kg)		According to AfPS GS 2019:01 PAH, extraction with Toluene, determination with GC-MS					■	■		■	■			
	Benzo(e)pyrene	192-97-2	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			
	Benzo(a)anthracene	56-55-3	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			
	Chrysene	218-01-9	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			
	Benzo(b)fluoroanthene	205-99-2	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			
	Benzo(j)fluoroanthene	205-82-3	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			
	Benzo(k)fluoroanthene	207-08-9	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			
	Dibenzo(a,h)anthracene	53-70-3	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			
	Acenaphthene	83-32-9	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)						■	■		■	■			

GB-23	**Polyaromatic hydrocarbons (PAHs)**	-	usage ban (traces 10 mg/kg for sum of 18 PAHs)															
	Acenaphthylene	208-96-8	usage ban (traces 10 mg/kg for sum of 19 PAHs)				According to AfPS GS 2019:01 PAH, extraction with Toluene, determination with GC-MS				■	■		■	■			
	Antracene	120-12-7									■	■		■	■			
	Benzo(ghi)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									■	■		■	■			
	Dibenzo[def,p]chrysene	191-30-0									■	■		■	■			
GB-24	**Phthalates**	please refer to Appendix	usage ban (traces 50 mg/kg - sum of all Phthalates 500 mg/kg)				DIN EN ISO 14389				■	■		■	■			
GB-25	**Polyvinylchloride (PVC)**	9002-86-2	usage ban				ATR-FT-IR spectroscopy				■	■		■	■	■		
GB-26	**Pesticides (incl. PCP / TetraCP)**	please refer to Appendix	usage ban (traces 0.5 mg/kg for sum of pesticides)				Extraction with organic solvent / GC-MS	■	■	■	■							
GB-27	**Biocide finish** (In case bicode is intentionally used as antimicrobial treatment please refer to note on page 3)	-	usage ban				Extraction with organic solvent / GC-MS	■	■	■	■		■					
GB-28	**Flame retardant finish**	please refer to Appendix	usage ban				ISO 17881-1 for brominated flame retardents ISO 17881-2 for phosphorus flame retardents	■	■			■	■					
GB-29	**Nitrosamines** (as substance and as reaction product from secondary amines e.g. in elastomers or rubbers)	please refer to Appendix	usage ban (0.5 mg/kg)				GB/T 24153 or prEN 19577					■						
GB-30	**pH – value**	-	4.0 – 7.5		4.0 – 9.0		Textile: DIN EN ISO 3071 Leather: DIN EN ISO 4045	■	■	■	■							
			3.5 – 7.5 (leather)															
GB-31	**Solvents / Volatile organic compounds (VOC) / Glycols**																	
	N,N-Dimethylformamide (DMFa)	68-12-2	usage ban (5 mg/kg)				CEN ISO/TS 16189											
			50 mg/kg (solvent coating, laminating and fiber manufacturing)								■	■		■	■			
	N,N-dimethylacetamide (DMAC)	127-19-5	usage ban (5 mg/kg)															
			10 mg/kg (solvent coating, lamination and fiber manufacturing)		50 mg/kg (solvent coating, lamination and fiber manufacturing)			■	■	■	■	■	■	■	■			
	N-Methylpyrrolidone (NMP)	872-50-4	10 mg/kg		100 mg/kg			■	■	■	■	■	■		■	■		
	N-Ethyl-2-pyrrolidone (NEP)	2687-91-4	10 mg/kg		100 mg/kg			■	■	■	■	■	■		■	■		

	Solvents / Volatile organic compounds (VOC) / Glycols															
	Toluene	108-88-3	10 mg/kg	50 mg/kg					■	■		■	■			
	2-Ethoxyethylacetate	111-15-9	usage ban (5 mg/kg)				■	■	■	■	■	■		■	■		
	2-Ethoxyethanol (EGEE)	110-80-5	usage ban (5 mg/kg)				■	■	■	■	■	■		■	■		
	2-Methoxyethanol (EGME)	109-86-4	usage ban (5 mg/kg)				■	■	■	■	■	■		■	■		
	Trichloroethylene (TCE)	79-01-6	usage ban (5 mg/kg)				■	■	■	■	■	■		■	■		
	Formamide	75-12-7	50 mg/kg	100 mg/kg							■						
	Styrene	100-42-5	10 mg/kg								■						
	Vinylcyclohexene	100-40-3	1 mg/kg								■						
	Butadiene	106-99-0	1 mg/kg								■						
	Vinylchloride	75-01-4	0.1 mg/kg								■						
	Dichloromethane	75-09-2	usage ban (5 mg/kg)				■	■	■	■	■	■		■	■		
	Trichloromethane (chloroform)	67-66-3	usage ban (5 mg/kg)				■	■	■	■	■	■		■	■		
GB-31	Tetrachloromethane	56-23-5	usage ban (0.1 mg/kg)		Solvent extraction / GC-MS or Multiple Headspace / GC-MS		■	■	■	■	■	■		■	■		
	1,1,1-Trichloroethane	71-55-6	usage ban (0.1 mg/kg)														
	1,1,2-Trichloroethane	79-00-5	usage ban (1 mg/kg)				■	■	■	■	■	■		■	■		
	1,1-dichloroethane	75-35-4	10 mg/kg				■	■	■	■	■	■		■	■		
	1,2-dichloroethane (EDC)	107-06-2	usage ban (1 mg/kg)				■	■	■	■	■	■		■	■		
	Perchloroethylene (PERC) / Tetrachloroethylene	127-18-4	usage ban (1 mg/kg)				■	■	■	■	■	■		■	■		
	Benzene	71-43-2	usage ban (5 mg/kg)				■	■	■	■	■	■		■	■		
	Bis(2-methoxyethyl)-ether	111-96-6	usage ban (5mg/kg)				■	■	■	■	■	■		■	■		
	Ethylene glycol dimethyl ether	110-71-4	usage ban (5mg/kg)				■	■	■	■	■	■		■	■		
	2-Methoxyethylacetate	110-49-6	usage ban (5mg/kg)				■	■	■	■	■	■		■	■		
	2-Methoxy-1-propanol	1589-47-5	usage ban (5mg/kg)				■	■	■	■	■	■		■	■		
	Triethylene glycol dimethyl ether	112-49-2	usage ban (5mg/kg)				■	■	■	■	■	■		■	■		
	Cresol, all isomers	1319-77-3 108-39-4 95-48-7 106-44-5	usage ban (10mg/kg)		Extraction with KOH // §64 LFGB B 82.02-8 or DIN EN ISO 17070		■	■	■	■	■	■		■	■		

GB-31	**Solvents / Volatile organic compounds (VOC) / Glycols**																
	2-Phenyl-2-propanol	617-94-7	1 mg/kg	50 mg/kg	Solvent extraction / GC-MS or Multiple Headspace / GC-MS	■	■	■	■	■	■		■	■			
	Acetophenone	98-86-2	20 mg/kg			■	■	■	■	■	■		■	■			
	Phenol	108-95-2	100 mg/kg			■	■	■	■	■	■		■	■			
	Xylene, all isomers	1330-20-7 108-38-3 95-47-6 106-42-3	usage ban (traces 1 mg/kg)			■	■	■	■	■	■		■	■			
			1 mg/kg (non-textiles)	10 mg/kg (non-textiles)													
GB-32	**Fluorinated Greenhouse Gases (SF6, PFCs, HFCs)**	please refer to Appendix	usage ban (0.1 mg/kg)		Solvent extraction / GC-MS or Multiple Headspace / GC-MS					■	■		■	■			
GB-33	**Quinoline**	91-22-5	50 mg/kg		Extraction with Methanol or THF // HPLC-MS/MS or HPLCDAD	■	■										
GB-34	**Process perservative agents**																
	2-Phenylphenol / ortho-Phenylphenol (OPP)	90-43-7	250 mg/kg	750 mg/kg	ISO 13365			■	■								
	4-Chloro-3-methylphenol (CMC/CMK)	59-50-7	150 mg/kg	300 mg/kg				■	■								
	2-(Thiocyanomethylthio)benzothiazol (TCMBT)	21564-17-0	250 mg/kg	500 mg/kg				■	■								
	2-Octylisothiazol (OIT)	26530-20-1	10 mg/kg					■	■								
GB-35	**Aniline (free)**	62-53-3	Usage ban (traces 30 mg/kg)		Extraction with MeOH // LC-MS	■	■	■	■				■	■	■		
GB-36	**UV-Stabilizers**																
	UV 320 (2-Benzotriazol-2-yl-4,6-di-tert-butylphenol)	3846-71-7	Usage ban (traces 1000 mg/kg)		Extraction with Hexane/Dichloroethane // GC-MS					■	■		■	■	■		
	UV 327 (2,4-Di-tert-butyl-6-(5-chlorbenzotriazol-2-yl)phenol)	3864-99-1															
	UV 328 (2-(2H-benzotriazol-2-yl)-4,6-ditertpentyl-phenol)	25973-55-1															
	UV 350 (2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol)	36437-37-3															

GB-37	Azodicarbonamide	123-77-3	100 mg/kg	200 mg/kg		GC-MS // Solvent extraction LC-MS // Solvent extraction LC-DAD // Solvent extraction	■	■	■	■	■	■	■	■	■		
GB-38	Acetaldehyde	75-07-0	10 mg/kg			LC-MS // Extraction with Methanol	■	■	■	■	■	■	■	■	■		
GB-39	**Heavy metals in packaging**																
	Cadmium (Cd)	7440-43-9	100 mg/kg (for sum of heavy metals)			Microwave digestion followed by ICP analysis (Chromium VI only: DIN EN ISO 17075)									■		
	Chromium (Cr) VI	7439-92-1															
	Lead (Pb)	7440-43-9															
	Mercury (Hg)	7439-97-6															
GB-40	**Cobalt dichloride** (in blue color-indicator)	7646-79-9 7791-13-1	usage ban			Determination of cobalt followed by ICP/MS, Determination of chloride by ion chromatography									silica gel only		
GB-41	**REACH:** All substances that are listed in the REACH Candidate List of Substances of Very High Concern for Authorisation (Annex XIV), unless limit value is specified otherwise in this document.	-	0.1 mass %			Various test methods depending on substance. Note: "once an article always an article"- The threshold of 0,1 % is calculated on basis of each single article the product consists of.	General instruction										

1.2 Restrictions on harmful substances for materials with food or mouth contact

	RESTRICTED SUBSTANCES	CAS - No.	LIMIT VALUES	TEST METHODS	L	M	N	O	P
					Metals and alloys	Silicone	Synthetic polymers, prints, coatings	Ceramic	Enamel
GB-42	**Sensory tests - for drinking vessels**								
	Change of taste through direct contact, acid and aqueous food – still water	-	scale: 2.5	ASU L 0090-7 and DIN 10955					
	Change of odour through direct contact, acids and aqueous food – still water	-	scale: 2.5						
	Change of taste through direct contact, fatty food (aqueous) – coconut oil	-	scale: 2.5						
	Change of odour through direct contact, fatty food (aqueous) – coconut oil	-	scale: 2.5						
GB-43	**Overall migration**		Limit value first migrate for single use articles and of third migrate for repeated use articles. For repeated use articles value in the second test shall be lower than in the first test, and value in the third test shall be lower than in the second test.						
	3% acetic acid in aqueous solution (simulanz B)	-	10 mg/dm²	ASU 80.30 part 1-3 EN 1186, Commission Regulation (EU) No 10/2011 Test conditions depending on use (OM 0 - OM9) ResAP(2004)5 on Silicones All kind of materials - Netherlands: Commodities Act (Packaging and Consumer Articles) Netherlands; Food simulants, contact time, contact temperature and limits according Commodities Act. All kind of materials - Italy: Decreto Ministeriale del 21/3/1973		■	■	■	■
	95% ethanol and isooctane (simulanz D2)	-	10 mg/dm²				■	■	■
	50% ethanol (simulanz D1)	-	10 mg/dm²			■	■	■	■
	Tenax (simulant E)	-	10 mg/dm²			■			
GB-44	**Total metal content**								
	Chromium (Cr)	7440-47-3	10 mg/kg	Microwave digestion followed by ICP-MS according to DIN EN ISO 17294-2			■		
	Vanadium (V)	7440-62-2	20 mg/kg						
	Zirconium (Zr)	7440-67-7	100 mg/kg						
	Hafnium (Hf)	7440-58-6	100 mg/kg						
	Cadmium (Cd)	7440-43-9	40 mg/kg						
	Lead (Pb)	7439-92-1	40 mg/kg						
GB-45	**Metals, specific migration**		Limit value first migrate for single use articles and of third migrate for repeated use articles. For repeated use articles value in the second test shall be lower than in the first test, and value in the third test shall be lower than in the second test.						
	Aluminium (Al)	7429-90-5	1 mg/kg food or food simulant	Commission Regulation (EU) No 10/2011 incl. Amendment (EU) 2017/752. Food simulants, contact time and contact temperature according Commission Regulation.			■		
	Antimony (Sb	7440-36-0	0,04 mg/kg food or food simulant						
	Arsenic (As)	7440-38-2	ND (0,01 mg/kg food or food simulant)						
	Barium (Ba)	7440-39-3	1 mg/kg food or food simulant						
	Cadmium (Cd)	7440-43-9	ND (0,002 mg/kg food or food simulant)						
	Chromium (Cr)	7440-47-3	ND (0,01 mg/kg food or food simulant or 3,6 mg/kg if material is CrVI free)						
	Cobalt (Co)	7440-48-4	0,05 mg/kg food or food simulant						
	Copper (Cu)	7440-50-8	5 mg/kg food or food simulant						
	Europium (Eu)	7440-53-1	in sum 0,05 mg/kg food or food simulant						
	Gadolinium (Gd)	7440-54-2							
	Lanthanum (La)	7439-91-0							
	Terbium (Tb)	7440-27-9							
	Iron (Fe)	7439-89-6	48 mg/kg food or food simulant						
	Lead (Pb)	7439-92-1	ND (0,01 mg/kg food or food simulant)						
	Lithium (Li)	7439-93-2	0,6 mg/kg food or food simulant						
	Manganese (Mn)	7439-96-5	0,6 mg/kg food or food simulant						
	Mercury (Hg)	7439-97-6	ND (0,01 mg/kg food or food simulant)						
	Nickel (Ni)	7440-02-0	0,02 mg/kg food or food simulant						
	Zinc (Zn)	7440-66-6	5 mg/kg food or food simulant						

GB-46	**Polyaromatic hydrocarbons (PAHs)**								
	Sum of PAHs	please refer to Appendix	0.2 mg/kg	According to AfPS GS 2014:01 PAH, extraction with Toluene, determination with GC-MS			■		
	Benzo(a)pyren	50-32-8	0.2 mg/kg						
	Benzo (g,h,i) perylene	191-24-2	0.2 mg/kg						
GB-47	**Polyaromatic hydrocarbons (PAHs), specific migration considering worst-case conditions**	please refer to Appendix	0.01 mg/kg	(1) DIN EN 13130-1 migration (2) Commission Regulation (EU) No. 10/2011 (non-intentionally added substance); Food simulants, Contact time and Contact temperature according Commission Regulation.			■		
GB-48	**Phthalates, specific migration**		Limit value first migrate for single use articles and of third migrate for repeated use articles. For repeated use articles value in the second test shall be lower than in the first test, and value in the third test shall be lower than in the second test.						
	DBP	84-74-2	0.3 mg/kg	Commission Regulation (EU) No. 10/2011 Food simulants, Contact time and Contact temperature according Commission Regulation.			■		
	BBP	85-68-7	30 mg/kg						
	DEHP	117-81-7	1.5 mg/kg						
	DINP	28553-12-0	9 mg/kg						
	DIDP	26761-40-0	9 mg/kg						
GB-49	**Phthalates, content (%)**								
	DBP	84-74-2	0,05%	Commission Regulation (EU) No. 10/2011 Food simulants, Contact time and Contact temperature according Commission Regulation.			■		
	BBP	85-68-7	0,10%						
	DEHP	117-81-7	0,10%						
	DINP	28553-12-0	0,10%						
	DIDP	26761-40-0	0,10%						
GB-50	**Bisphenol A (BPA)**	80-05-7	usage ban (0.05 mg/kg)	Extraction with organic solvent / GC-MS			■		
GB-51	**Primary aromatic amines**	several	Usage ban: 0,002 mg/kg food or food simulant each for PAAs listed in 1907/2006 Annex XVII Entry 43 (azo dyes); all other PAAs <0.01 mg/kg food or food simulant	Commission Regulation (EU) No. 10/2011 Food simulants, Contact time and Contact temperature according Commission Regulation. Plastic materials and articles shall not release primary aromatic amines, excluding those appearing in Table 1 of Annex I of Commission Regulation (EU) No. 10/2011.			PA / PU and strong colored materials		
GB-52	ANNEX I - Substances: Union list of authorised monomers, other starting substances, macromolecules obtained from microbial fermentation, additives and polymer production aids	-	see ANNEX I - 10/2011	Commission Regulation (EU) No. 10/2011			risk based		
GB-53	**Extractable heavy metals - migration with 0.5% citric acid**		Limit value of third migrate:						
	Aluminium (Al)	7429-90-5	5 mg/kg food	ASU B 80.03-1; 80.03-2; Based on EN 1388 Part1 and "Guideline on metals and alloys"of Resolution CM/Res(2013)9 adopted in June 2013. Non-insulated drinking vessels: cold filled: 24h, 40°C; hot filled: 2h, 70°C; Thermo bottles: 24h, 70°C Result of first migrate plus result of second migrate must be lower than 7x the limit value of third migrate (defined in left column).	■				
	Anitmony (Sb)	7440-36-0	0.04 mg/kg food						
	Chromium (Cr)	7440-47-3	0.25 mg/kg food						
	Cobalt (Co)	7440-48-4	0.02 mg/kg food						
	Copper (Cu)	7440-50-8	4 mg/kg food						
	Iron (Fe)	7439-89-6	40 mg/kg food						
	Magnesium (Mg)	7439-95-4	-						
	Manganese (Mn)	7439-96-5	1.8 mg/kg food						
	Molybdenum (Mo)	7439-98-7	0.12 mg/kg food						
	Nickel (Ni)	7440-02-0	0.14 mg/kg food						
	Silver (Ag)	7440-22-4	0.08 mg/kg food						
	Tin (Sn)	7440-31-5	100 mg/kg food						
	Titanium (Ti)	7440-32-6	-						
	Vanadium (V)	7440-62-2	0.01 mg/kg food						
	Zinc (Zn)	7440-66-6	5 mg/kg food						
	Arsenic (As)	7440-38-2	0.002 mg/kg food						
	Barium (Ba)	7440-39-3	1.2 mg/kg food						
	Beryllium (Be)	7440-41-7	0.01 mg/kg food						
	Cadmium (Cd)	7440-43-9	0.005 mg/kg food						
	Lead (Pb)	7439-92-1	0.01 mg/kg food						
	Lithium (Li)	7439-93-2	0.048 mg/kg food						
	Mercury (Hg)	7439-97-6	0.003 mg/kg food						
	Thallium (Tl)	7440-28-0	0.0001 mg/kg food						
GB-54	**Peroxides**	several	usage ban	Determination of peroxides, Ph. Eur. Method 2.5.5.		■	■		
GB-55	**Volatile organic matters VOM**	-	0.5 % w/w	Gravimetric method, single specification - Depenging on use (Germany)/ France and Switzerland 4 hours, 200°C		■			
GB-56	**Extractable matters**	-	0.5 % w/w	Gravimetric method; Bundesgesundheitsblatt" 22, 1979, Page 339; „Bundesgesundheitsblatt" 11, 1979, Page 343; „Bundesgesundheitsblatt" 12, 1961, Page 189 ff.		■			
GB-57	**Extractable heavy metals - migration with 4% acetic acid in aqueous solution (AT BRIM)**		Limit value of third migrate:						
	Cadmium (Cd)	7440-43-9	0.2 mg/article (at brim)	Directive 2005/31/EC (amendment of Council Directive 84/500/EEC)				■	
	Lead (Pb)	7439-92-1	2 mg/article (at brim)	EN 1388-2					
	Cobalt (Co)	7440-48-4	1 mg/article (at brim)	Germany LFGB					

	Extractable heavy metals - migration with 4% acetic acid in aqueous solution (INSIDE SURFACE)	-	Limit value of first migrate: **Category 1:** Articles which cannot be filled and articles which can be filled, the internal depth of which, measured from the lowest point to the horizontal plane passing through the upper rim, does not	**Category 2:** All other articles which can be filled	**Category 3:** Cooking ware; packaging and storage vessels having a capacity of more than three litres						
GB-58	Cadmium (Cd)	7440-43-9	0,07 mg/dm2	0,3 mg/l	0,1 mg/l	Directive 84/500/EWG					
	Lead (Pb)	7439-92-1	0,8 mg/dm2	4,0 mg/l	1,5 mg/l						
	Cobalt (Co)	7440-48-4	0.1 mg/dm²	0.2 mg/L	0.1 mg/L	Germany LFGB					
			capacity up to 1L	**capacity of more than 1L**		Austrian ceramic regulation				■	
	Barium (Ba)	7440-39-3	1 mg/capacity	1 mg/L							
	Antimony (Sb)	7440-36-0	1 mg/capacity	1 mg/L							
	Zinc (Zn)	7440-66-6	3 mg/capacity	3 mg/L							
GB-59	**Extractable heavy metals - migration with 3% acetic acid in aqueous solution**	-	Limit value of third migrate:								
	Aluminium (Al)	7429-90-5	5000 µg/l			DIN EN 4351:2018					■
	Anitmony (Sb)	7440-36-0	40 µg/l								
	Chromium (Cr)	7440-47-3	250 µg/l								
	Cobalt (Co)	7440-48-4	100 µg/l								
	Copper (Cu)	7440-50-8	4000 µg/l								
	Manganese (Mn)	7439-96-5	1800 µg/l								
	Molybdenum (Mo)	7439-98-7	120 µg/l								
	Nickel (Ni)	7440-02-0	140 µg/l								
	Silver (Ag)	7440-22-4	80 µg/l								
	Vanadium (V)	7440-62-2	10 µg/l								
	Zinc (Zn)	7440-66-6	5 000 µg/l								
	Arsenic (As)	7440-38-2	2 µg/l								
	Barium (Ba)	7440-39-3	1200 µg/l								
	Cadmium (Cd)	7440-43-9	5 µg/l								
	Lead (Pb)	7439-92-1	10 µg/l								
	Lithium (Li)	7439-93-2	480 µg/l								
GB-60	**Heavy Metals, extractable in ceramics/enamels**		Limit value of third migrate:								
	Arsenic (As)	7440-38-2	0.01 mg/kg			EN 1186 Commodities Act (Packaging and Consumer Articles) Netherlands; Food simulants, contact time and contact temperature according Commodities Act.				■	
	Barium (Ba)	7440-39-3	1 mg/kg								
	Boron (B)	7440-42-8	1 mg/kg								
	Cadmium (Cd)	7440-43-9	0.01 mg/kg								
	Chromium (Cr)	7440-47-3	0.1 mg/kg								
	Cobalt (Co)	7440-48-4	0.05 mg/kg								
	Lithium (Li)	7439-93-2	0.6 mg/kg								
	Lead (Pb)	7439-92-1	0.1 mg/kg								
	Mercury (Hg)	7439-97-6	0.005 mg/kg								
	Rubidium (Rb)	7440-17-7	1 mg/kg								
	Selenium (Se)	7782-49-2	0.01 mg/kg								
	Strontium (Sr)	7440-24-6	1 mg/kg								

1.3 Restrictions on emission of volatiles from shoe containers

Below restrictions are based on the maximum allowable MAKs[1] (= job concentration levels). The emission of volatiles from shoe containers are measured directly after arrival in Hamburg, Germany (fugitive air measurement).

RESTRICTED SUBSTANCES	CAS-No.	LIMIT VALUES [ml/m³]	TEST METHOD
N,N-Dimethylformamide (DMFa)	68-12-2	5	Headspace/GC-MS
N,N-dimethylacetamide (DMAC)	27-19-5	10	Headspace/GC-MS
N-Methylpyrrolidone (NMP)	872-50-4	20	Headspace/GC-MS
Toluene	108-88-3	50	Headspace/GC-MS
2-Ethoxyethylacetate	111-15-9	2	Headspace/GC-MS
2-Ethoxyethanol (EGEE)	110-80-5	2	Headspace/GC-MS
2-Methoxyethanol (EGME)	109-86-4	1	Headspace/GC-MS
Trichloroethylene (TCE)	79-01-6	1	Headspace/GC-MS
Formamide	75-12-7	10	Headspace/GC-MS
Styrene	100-42-5	20	Headspace/GC-MS
Vinylcyclohexene	100-40-3	0.1	Headspace/GC-MS
Butadiene	106-99-0	2	Headspace/GC-MS
Vinylchloride	75-01-4	2	Headspace/GC-MS
Dichloromethane	75-09-2	12.5	Headspace/GC-MS
Trichloromethane (chloroform)	67-66-3	0.5	Headspace/GC-MS
Tetrachloromethane	56-23-5	0.5	Headspace/GC-MS
1,1,2-Trichloroethane	79-00-5	10	Headspace/GC-MS
1,1-Dichloroethane	75-34-3	100	Headspace/GC-MS
1,2-Dichloroethane (EDC)	107-06-2	0.02	Headspace/GC-MS
Perchloroethylene (PER)/ Tetrachloroethylene	127-18-4	50	Headspace/GC-MS
Dimethylfumarate (DMFu)	624-49-7	0.1	Headspace/GC-MS
Benzene	71-43-2	0.1	Headspace/GC-MS
1,2-Dibromoethane	106-93-4	0.2	Headspace/GC-MS
Aromatic hydrocarbons (without Benzene)	-	50	Headspace/GC-MS
Chlorinated aromatic Hydrocarbons	-	2	Headspace/GC-MS
Chlorinated phenols	see GB-07	0.1	Headspace/GC-MS
Carbon disulfide (CS2)	75-15-0	5	Headspace/GC-MS
Xylene	1330-20-7	100	Headspace/GC-MS
Formaldehyde	50-00-0	0.3	Headspace/GC-MS
4-Phenylcyclohexene	4994-16-5	0.006	Headspace/GC-MS
Methyl bromide	74-83-9	0.5	Headspace/GC-MS
1,2-Dichloropropane	78-87-5	75	Headspace/GC-MS
Chrysaniline (Phosphine)	7803-51-2	0.1	Headspace/GC-MS
2,4-Dichlorophenol	120-83-2	0.1	Headspace/GC-MS
Ethylbenzene	100-41-4	50	Headspace/GC-MS
Cyclohexanone	108-94-1	25	Headspace/GC-MS
Methyl-Ethyl-Ketone	78-93-3	200	Headspace/GC-MS

[1] https://www.dfg.de/en/dfg_profile/statutory_bodies/senate/health_hazards/index.html

2 *Appendix*

2.1 Material Fields of Application

The following table shows examples of materials and their field of application for each material category in the testing matrix:

Material category	Type of material	Field of application
Natural fibers	Wool Cotton Linen	Fabrics Tapes Threads
Synthetic fibers	Polyester Polyamide Elastane Polyacrylic	Fabrics Tapes Threads Mesh Fake fur Laces Zipper tapes
Leather	Cowhide Pigskin Suede Split leather	Main material Patch Insole
Bonded Leather (Lefa)	Bonded leather (shredded left-over leather from production which is bonded by glue)	Bonded leather with coating, used for inner materials or accessories
Polymers	Rubber Plastics (TPU, POM, Acetal, etc.)	Sole Sealing Patches Stopper Inserts Buckles Buttons Zipper
Foams	Polyurethane foam EVA foam	Upholstery Sole Insole
Metal	Brass Copper	Button Rivet Closure Eyelets Zipper
Coatings (Base material can be out of natural fibers, synthetic fibers, leather, bonded leather (lefa), polymers)	Polyurethane Silicone	Main material Synthetic leather Reflective Toe cap
Prints	Rubber print Pigment print Heat transfer prints	Placement print All over prints (AOP) Reflective prints
Packaging	Paper Polymers	Cartons Paper Polybags Foils Hangtags Sticker
Paper / Cardboard	Paper	Sole material Filling material Stabilization

2.2 CAS - No. Index

2.2.1 GB-01 Arylamines

(including corresponding salts; as substance from Azo colorants which, by reductive cleavage of one or more Azo groups, may release one or more of the aromatic amines)

No.	Chemical Substance	CAS-No.[1)]
1	4-Aminobiphenyl	92-67-1
2	Benzidine	92-87-5
3	4-Chloro-o-toluidine	95-69-2
4	2-Naphthylamine	91-59-8
5	o-Aminoazotoluene	97-56-3
6	2-Amino-4-nitrotoluene	99-55-8
7	p-Chloroaniline	106-47-8
8	2,4-Diaminoanisole	615-05-4
9	4,4'-Diaminodiphenylmethane	101-77-9
10	3,3'-Dichlorobenzidine	91-94-1
11	3,3'-Dimethoxybenzidine	119-90-4
12	3,3'-Dimethylbenzidine	119-93-7
13	3,3'-Dimethyl-4,4'-diaminobiphenylmethane	838-88-0
14	p-Cresidine	120-71-8
15	4-Aminoazobenzene	60-09-3
16	4,4'-Methylene-bis-(2-chloroaniline)	101-14-4
17	4,4'-Oxydianiline	101-80-4
18	4,4'-Thiodianiline	139-65-1
19	o-Toluidine	95-53-4
20	2,4-Toluylenediamine	95-80-7
21	2,4,5-Trimethylaniline	137-17-7
22	o-Anisidine (2-Methoxyaniline)	90-04-0
23	2,4-Xylidine (2,4-Dimethylaniline)	95-68-1
24	2,6-Xylidine (2,6-Dimethylaniline)	87-62-7
25	4-Chloro-o-toluidinium chloride	3165-93-3
26	4-Methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7
27	2-Naphthylammoniumacetate	553-00-4
28	2,4,5-Trimethylaniline hydrochloride	21436-97-5

[1)] CAS No. = Chemical Abstract Service Registry Number; a unique numerical identifier to every chemical substance.

2.2.2 GB-02 Allergenic dyestuffs

No.	C.I. Generic Name[2)]	CAS-No.
1	Disperse Blue 3	2455-46-9 86722-66-9
2	Disperse Blue 7	3179-90-6
3	Disperse Blue 26	3860-63-7
4	Disperse Blue 35	12222-75-2
5	Disperse Blue 102	12222-97-8
6	Disperse Blue 106	12223-01-7
7	Disperse Blue 124	61951-51-7
8	Disperse Brown 1	23355-64-8
9	Disperse Orange 1	2581-69-3
10	Disperse Orange 3	730-40-5
11	Disperse Orange 37 / 59 / 76	13301-61-6 12223-33-5 51811-42-8
12	Disperse Red 1	2872-52-8
13	Disperse Red 11	2872-48-2
14	Disperse Red 17	3179-89-3
15	Disperse Yellow 1	119-15-3
16	Disperse Yellow 9	6373-73-5
17	Disperse Yellow 39	12236-29-2
18	Disperse Yellow 49	54824-37-2

[2)] C.I. = Color Index (https://colour-index.com/)

2.2.3 GB-03 Carcinogenic dyestuffs

No.	C.I. Generic name	CAS-No.
1	Acid Red 26	3761-53-3
2	Basic Red 9	569-61-9
3	Basic Violet 14	632-99-5
4	Basic Violet 3	548-62-9 603-48-5 14426-25-6
5	Direct Black 38	1937-37-7
6	Direct Blue 6	2602-46-2
7	Direct Red 28	573-58-0
8	Disperse Blue 1	2475-45-8
9	Disperse Orange 11	82-28-0
10	Disperse Yellow 3	2832-40-8
11	Pigment Black 25	68186-89-0
12	Pigment Red 104	12656-85-8
13	Pigment Yellow 34	1344-37-2
14	Pigment Yellow 157	68610-24-2
15	Basic Green 4 Malachit green Malachit green chloride Malachit green oxalate	Several 10309-95-2 569-64-2 2437-29-8
16	Direct Brown 95	16071-86-6
17	Direct Blue 15	2429-74-5
18	Acid Red 114	6459-94-5
19	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol (Solvent Violet 8)	561-41-1
20	Leucomalachite green	129-73-7

2.2.4 GB-04 Other banned dyestuffs

No.	C.I. Generic name	CAS-No.
1	Disperse Orange 149	85136-74-9
2	Disperse Yellow 23	6250-23-3
3	Navy Blue 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: CAS-No: 118685-33-9 C39H23ClCrN7O12S.2Na ¦ Component 2: C46H30CrN10O20S2.3Na	EC-Number: 405-665-4 Component 1: 118685-33-9 Component 2: Not allocated
4	Basic Blue 26	2580-56-5
5	Direct Yellow 1	6472-91-9
6	Disperse Blue 35B	56524-76-6

2.2.5 GB-10 Chlorinated –Benzenes and Toluenes

No.	Chemical Substance	CAS-No.
1	Monochlorobenzene	108-90-7
2	Dichlorobenzenes, all isomers	95-50-1 541-73-1 106-46-7
3	Trichlorobenzenes, all isomers	87-61-6 120-82-1 108-70-3
4	Tetrachlorobenzenes, all isomers	634-66-2 634-90-2 95-94-3
5	Pentachlorobenzene	608-93-5
6	Hexachlorobenzene	118-74-1
7	Chlorotoluenes, all isomers	25168-05-2
8	Monochlorotoluenes, all isomers	95-49-8 108-41-8 106-43-4 100-44-7
9	Dichlorotoluenes, all isomers	32768-54-0 95-73-8 19398-61-9 118-69-4 95-75-0 25186-47-4
10	Trichlorotoluenes, all isomers	7359-72-0 2077-46-5 6639-30-1 23749-65-7 21472-86-6 98-07-7 56961-86-5
11	Tetrachlorotoluenes, all isomers	875-40-1 2136-89-2 5216-25-1 1006-32-2 1006-31-1
12	Pentachlorotoluene	877-11-2

2.2.6 GB-22 Isocyanates

No.	Chemical Substance	CAS-No.
1	Diphenylmethane diisocyanate (MDI)	101-68-8
2	Hexamethylene diisocyanate (HMDI)	822-06-0
3	Isophorone diisocyanate (IPDI)	4098-71-9
4	Tetramethylxylene diisocyanate (TMXDI)	2778-42-9
5	Toluene diisocyanate (2,4-TDI)	584-84-9
6	Toluene diisocyanate (2,6-TDI)	91-08-7

2.2.7 GB-24 Phthalates

No.	Chemical Substance	CAS-No.
1	Di-iso-nonylphthalate (DINP)	28553-12-0 68515-48-0
2	Di-n-octylphthalate (DNOP)	117-84-0
3	Di(2-ethylhexyl)phthalate (DEHP)	117-81-7
4	Di-iso-decylphthalate (DIDP)	26761-40-0 68515-49-1
5	Butylbenzylphthalate (BBP)	85-68-7
6	Dibutylphthalate (DBP)	84-74-2
7	Di-iso-butylphthalate (DIBP)	84-69-5
8	Di-$_{C7-11}$-branched and linear alkyl esters (DHNUP)	68515-42-4
9	Di-$_{C6-8}$-branched alkyl esters (DIHP)	71888-89-6
10	Bis(2-methoxyethyl)phthalate (DMEP)	117-82-8
11	Dimethylphthalate (DMP)	131-11-3
12	Di-n-hexylphthalate (DNHP)	84-75-3
13	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4
14	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
15	Diisopentylphthalate (DIPP)	605-50-5
16	N-pentyl-isopentyl-phthalate (NPIPP)	776297-69-9
17	Diethyl phthalate (DEP)	84-66-2
18	Dinonyl phthalate (DNP)	84-76-4
19	Di-n-propyl phthalate (DPRP)	131-16-8
20	Di-cyclohexyl phthalate (DHCP)	84-61-7
21	Di-iso-octyl phthalate (DIOP)	27554-26-3
22	Di-n-pentyl phthalate (DnPP)	131-18-0
23	Diisohexyl phthalate	71850-09-4
24	1,2-benzenedicarboxylic acid, diC6-10-alkylesters	68515-51-5
25	1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68648-93-1

2.2.8 GB-26 Pesticides

No.	Chemical Substance	CAS-No.
1	2,4,5-T	93-76-5
2	2,4-D	94-75-7
3	Acetamiprid	135410-20-7 160430-64-8
4	Aldicarb	116-06-3
5	Aldrine	309-00-2
6	Azinophosethyl	2642-71-9
7	Azinophosmethyl	86-50-0
8	Bromophos-ethyl	4824-78-6
9	Captafol	2425-06-1
10	Carbaryl	63-25-2
11	Chlorbenzilate	510-15-6
12	Chlordane	57-74-9
13	Chlordimeform	6164-98-3
14	Chlordecone	143-50-0
15	Chlorfenvinphos	470-90-6
16	Clothianidin	210880-92-5
17	Coumaphos	56-72-4
18	Cyfluthrin	68359-37-5
19	Cyhalothrin	91465-08-6
20	Cypermethrin	52315-07-8
21	DDD	53-19-0 72-54-8
22	DDE	3424-82-6 72-55-9
23	DDT	50-29-3 789-02-6
24	DEF (Tribufos)	78-48-8
25	Deltamethrin	52918-63-5
26	Diazinon	333-41-5
27	Dichlorprop	120-36-2
28	Dicrotophos	141-66-2
29	Dieldrine	60-57-1
30	Dimethoate	60-51-5
31	Dinoseb and salts and acetats	88-85-7 et al.
32	Dinotefuran	165252-70-0
33	Endosulfan, α-	115-29-7
34	Endosulfan, β-	33213-65-9
35	Endrine	72-20-8
36	Esfenvalerate	66230-04-4
37	Fenvalerat	51630-58-1

No.	Chemical Substance	CAS-No.
38	Heptachlor	76-44-8
39	Hexachlorobenzene	118-74-1
40	Hexachlorocyclohexane (HCH), mixed isomers	608-73-1
41	Heptachloroepoxide	1024-57-3
42	Imidachloprid	105827-78-9 138261-41-3
43	Isodrine	456-73-6
44	Kelevan	4234-79-1
45	Kepone	143-50-0
46	Lindane	58-89-9
47	Malathion	121-75-5
48	MCPA	94-74-6
49	MCPB	94-81-5
50	Mecoprop	93-65-2
51	Metamidophos	10265-92-6
52	Methoxychlor	72-43-5
53	Mirex	2385-85-5
54	Monocrotophos	6923-22-4
55	Nitenpyram	150824-47-8
56	Parathion	56-38-2
57	Parathion-methyl	298-00-0
58	Pentachlorophenol (PCP)	87-86-5
59	Permethrin	52645-53-1
60	Perthane	72-56-0
61	Phosdrin/ Mevinphos	7786-34-7
62	Profenophos	41198-08-7
63	Propethamphos	31218-83-4
64	Phosphamidone	13171-21-6
65	Quinalphos	13593-03-8
66	Strobane	8001-50-1
67	Telodrin	297-78-9
68	Tetrachlorophenols (TetraCP)	25167-83-3
69	Thiacloprid	111988-49-9
70	Thiamethoxam	153719-23-4
71	Toxaphene	8001-35-2
72	Trifluralin	1582-09-8
73	Silvex	93-72-1

2.2.9 GB-28 Flame retardant finish

No.	Chemical Substance	CAS-No.
1	Polybrominated biphenyls (PBB)	59536-65-1
2	Tri-(2,3-dibromopropyl)-phosphate (TRIS)	126-72-7
3	Tris-(aziridinyl)-phosphinoxide (TEPA)	5455-55-1
4	Pentabromodiphenylether (PentaBDE)	32534-81-9
5	Octabromodiphenylether (OctaBDE)	32536-52-0
6	Decabromodiphenylether (DecaBDE)	1163-19-5
7	Tetrabromodiphenyl ether (TetraBDE)	40088-47-9
8	Hexabromodiphenyl ether (HexaBDE)	36483-60-0
9	Heptabromodiphenyl ether (HeptaBDE)	68928-80-3
10	Hexabromocyclododecane (HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8
11	Tris-(2-chloroethyl)phosphate (TCEP)	115-96-8
12	Bis-(2,3-dibromopopyl)phosphate	5412-25-9
13	Tetrabromobisphenol A (TBBPA)	79-94-7
14	Short chain chlorinated paraffins C10-C13 (SCCP)	85535-84-8
15	Medium chain chlorinated paraffins C14-C17 (MCCP)	85535-85-9
16	Tris-(2-chloro-1-methylethyl)phosphate (TCPP)	13674-84-5
17	Tris-[2-chloro-1-(chloromethyl)ethyl] phosphate (TDCP)	13674-87-8
18	Trixylyl phosphate	25155-23-1
19	2,2-Bis(bromomethyl)-1,3-propanediol	3296-90-0
20	Tetrabromobisphenol A bis(2,3-dibromopropylether)	21850-44-2
21	Trimethyl phosphate	512-56-1
22	Tri-o-cresyl phosphate	78-30-8
23	Nonabromodiphenylether (NonaBDE)	63936-56-1
24	Boric Acid	10043-35-3 11113-50-1
25	Diboron trioxide	1303-86-2
26	Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3
27	Disodium octaborate / Dinatriumoctaborat	12008-41-2
28	Monobromodiphenylether	several
29	Tricresylphosphate	1330-78-5
30	Decabromodiphenyl ethane (DBDPE)	84852-53-9

2.2.10 GB-29 Nitrosamines

No.	Chemical Substance	CAS-No.
1	N-Nitroso-di-n-butylamine	924-16-3
2	N-Nitroso-di-ethanolamine	1116-54-7
3	N-Nitroso-di-ethylamine	55-18-5
4	N-Nitroso-di-isopropylamine	601-77-4
5	N-Nitroso-di-methylamine	62-75-9
6	N-Nitroso-di-n-propylamine	621-64-7
7	N-Nitroso-ethylphenylamine	612-64-6
8	N-Nitroso-methylethylamine	10595-95-6
9	N-Nitroso-methylphenylamine	614-00-6
10	N-Nitroso-morpholine	59-89-2
11	N-Nitroso-piperidine	100-75-4
12	N-Nitroso-pyrrolidine	930-55-2

2.2.11 GB-32 Fluorinated Greenhouse Gases (SF6, PFCs, HFCs)

No.	Chemical Substance	CAS-No.
1	Sulphur hexafluoride (SF6)	2551-62-4
2	Perfluoromethane (CF4)	75-73-0
3	Perfluoroethane (C2F6)	76-16-4
4	Perfluoropropane (C3F8)	76-19-7
5	Perfluorobutane (C4F10)	355-25-9
6	Perfluoropentane (C5F12)	678-26-2
7	Perfluorohexane (C6F14)	355-42-0
8	Perfluorocyclobutane (c-C4F8)	115-25-3
9	HFC-23 - CHF3	75-46-7
10	HFC-32 - CH2F2	75-10-5
11	HFC-41 - CH3F	593-53-3
12	HFC-43-10mee - C5H2F10	138495-42-8
13	HFC-125 - C2HF5	354-33-6
14	HFC-134 - C2H2F4	359-35-3
15	HFC-134a - CH2FCF3	811-97-2
16	HFC-152a - C2H4F2	75-37-6
17	HFC-143 - C2H3F3	430-66-0
18	HFC-143a - C2H3F3	420-46-2
19	HFC-227ea - C3HF7	431-89-0
20	HFC-236cb - CH2FCF2CF3	677-56-5
21	HFC-236ea - CHF2CHFCF3	431-63-0
22	HFC-236fa - C3H2F6	690-39-1
23	HFC-245ca - C3H3F5	679-86-7
24	HFC-245fa - CHF2CH2CF3	460-73-1
25	HFC-365mfc - CF3CH2CF2CH3	406-58-6

2.2.12 GB-39 REACH Candidate List of Substances of Very High Concern

The complete REACH Candidate List of SVHCs for Authorisation (Annex XIV) can be found at https://echa.europa.eu/candidate-list-table

2.2.13 GB-44 + GB-45 Polyaromatic hydrocarbons (PAHs)

No.	Chemical Substance	CAS-No.
1	Acenaphtene	83-32-9
2	Acenaphtylene	208-96-8
3	Anthracene	120-12-7
4	Benzo (a) anthracene	56-55-3
5	Benzo (a) pyrene	50-32-8
6	Benzo (e) pyrene	192-97-2
7	Benzo (b) fluoranthene	205-99-2
8	Benzo (g,h,i) perylene	191-24-2
9	Benzo (j) fluoranthene	205-82-3
10	Benzo (k) fluoranthene	207-08-9
11	Chrysene	218-01-9
12	Dibenzo (a,h) anthracene	53-70-3
13	Fluoranthene	206-44-0
14	Fluorene	86-73-7
15	Indeno (1,2,3-cd) pyrene	193-39-5
16	Naphtalene	91-20-3
17	Phenathrene	85-01-8
18	Pyrene	129-00-0
19	Dibenzo[def,p]chrysene	191-30-0