

GREEN BOOK

Eco Requirements for Apparel/Equipment/Footwear

Restricted Harmful Substances and Chemical Management

Version August 2018

The following tables define the restrictions on harmful substances in Apparel, Footwear and Equipment products:

RESTRICTED SUBSTANCES	APPAREL & FOOTWEAR & EQUIPMENT			TEST METHODS
	CATEGORY I:	CATEGORY II:	CATEGORY III:	
	Materials used for baby and children's products Apparel: ≤ size 104 Footwear: all kids' sizes	Materials with skin contact (with accessible surfaces)	Materials without skin contact (fully covered materials; e.g. padding, interlining)	
	LIMIT VALUES (for every single substance unless specified otherwise)			
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)		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		usage ban (1 mg/l in extract)		BVL B82.02-10 (DIN 54231)
GB-03 Carcinogenic dyestuffs		usage ban (1 mg/l in extract)		
GB-04 Other banned dyestuffs		usage ban (1 mg/l in extract)		
Alkylphenols (AP)				
GB-05 Nonylphenols (NP) Octylphenols (OP)		usage ban (traces 10 mg/kg)		Textile: ISO 18254-1 Leather: ISO 18218-1
Alkylphenoethoxylates (APEO)				
GB-06 Nonylphenoethoxylates (NPEO) Octylphenoethoxylates (OPEO)		usage ban (traces 100 mg/kg)		Textile: DIN EN ISO 18254-1 Leather: ISO 18218-1
Chlorinated phenols				
GB-07 Pentachlorophenol (PCP), salts, esters and compounds Tetrachlorophenols (TetraCP), salts and compounds Trichlorophenols (TriCP), all isomers Monochlorophenols (MonoCP), all isomers Dichlorophenols (DiCP), all isomers	usage ban (traces 0.05 mg/kg for sum of PCP) usage ban (traces 0.05 mg/kg for sum of TetraCP) usage ban (traces 0.5 mg/kg for sum of TriCP) usage ban (traces 1 mg/kg sum of MonoCP and DiCP)	usage ban (traces 0.5 mg/kg for sum of PCP) usage ban (traces 0.5 mg/kg for sum of TetraCP) usage ban (traces 0.5 mg/kg for sum of TriCP)	usage ban (traces 0.5 mg/kg for sum of PCP (leather)) usage ban (traces 0.5 mg/kg for sum of TetraCP (leather))	Extraction with KOH // §64 LFGB B 82.02-8 or DIN EN ISO 17070
GB-08 Orthophenylphenol (OPP)		50 mg/kg		Extraction with KOH // §64 LFGB B 82.02-8 or DIN EN ISO 17070
GB-09 2,4-Dinitrotoluene		10 mg/kg		Solvent extraction / GC-MS or Multiple Headspace / GC-MS
GB-10 Chlorinated-Benzenes and Toluenes (e.g. carrier, solvent)		usage ban (traces 1 mg/kg)		Extraction with Dichloromethane / GC-MS (DIN 54232)
GB-11 Dimethylfumarate (DMFu)		usage ban (0.1 mg/kg)		Extraction with organic solvent / GC-MS, DIN CEN ISO/TS 16186
GB-12 Formaldehyde	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

Extractable heavy metals				
GB-13	Antimony (Sb)	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)	usage ban (0.2 mg/kg)		
	Lead (Pb)	usage ban (traces 0.2 mg/kg)	usage ban (traces 1 mg/kg)	
	Cadmium (Cd)	usage ban (traces 0.1 mg/kg)		
	Chromium (Cr)	usage ban with exception of leather (traces 1 mg/kg)	usage ban with exception of leather (traces 2 mg/kg)	
	Cobalt (Co)	usage ban (traces 1 mg/kg)	usage ban (traces 4 mg/kg)	
	Copper (Cu)	25 mg/kg	50 mg/kg	
	Nickel (Ni)	usage ban (traces 1 mg/kg)	usage ban (traces 4 mg/kg)	
	Mercury (Hg)	usage ban (traces 0.02 mg/kg)		
	Barium	100 mg/kg		
	GB-14	Nickel release	0.5 µg/cm ² /week	
GB-15	Chromium (Cr) VI	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
		usage ban (3 mg/kg (leather))		
Heavy metals in digested sample				
GB-16	Total Lead (Pb)	40 mg/kg		For textiles and others: DIN EN 16711-1 For leather: ISO 17072-2 For metal parts: DIN EN 16711-1
		90 mg/kg (metal)		
	Total Cadmium (Cd)	40 mg/kg		Lead: in addition Annex XVII to Regulation (EC) No 1907/2006 (REACH), column 2 of entry 63 is valid
		40 mg/kg (metal)		
	Total Arsenic (As)	100 mg/kg		
	Total Mercury (Hg)	1000 mg/kg (metal)		GB 28021 Acid digestion/ ICP analysis
Total Chromium VI (Cr VI)	1000 mg/kg (metal)		GB 28019 UV spectroscopy	
Organotin compounds				
GB-17	Dibutyltin (DBT)	usage ban (traces 1 mg/kg)		DIN EN ISO 17353 (Extraction with Ethanol / Derivation with Dimethyl carbamate / GC-MS) Footwear: CEN ISO/TS 16179 (modified)
	Tributyltin (TBT)	usage ban (0.05 mg/kg)		
	Monobutyltin (MBT)	usage ban (traces 1 mg/kg)		
	Triphenyltin (TPhT)	usage ban (0.05 mg/kg)		
	Dioctyltin (DOT)	usage ban (traces 1 mg/kg)		
	Monooctyltin (MOT)	usage ban (traces 2 mg/kg)		
	Tetrabutyltin (TeBT)	usage ban (0.5 mg/kg)		
	Tetraoctyltin (TeOT)	usage ban (0.5 mg/kg)		
	Tricyclohexyltin (TricycloHT)	usage ban (0.5 mg/kg)		
	Dimethyltin compounds (DMT)	usage ban (0.05 mg/kg)		
	Trimethyltin compounds (TMT)	usage ban (0.05 mg/kg)		
	Tripropyltin compounds (TPT)	usage ban (0.05 mg/kg)		
	Diphenyltin compounds (DPhT)	usage ban (traces 2 mg/kg)		
	Monomethyltin compounds (MMT)	usage ban (traces 2 mg/kg)		
	Trioctyltin compounds (TOT)	usage ban (0.05 mg/kg)		
	Dipropyltin (DPT)	usage ban (traces 1 mg/kg)		
	Monophenyltin (MPhT)	usage ban (traces 1 mg/kg)		
	Tetraethyltin (TeET)	usage ban (traces 1 mg/kg)		

GB-18	Perfluorooctansulfonates (PFOS) <i>(note information page 3)</i>	usage ban (1 µg/m ²)		Extraction with Methanol / LC-MS, CEN/TS 15968
	Perfluorooctanoic acid (PFOA) it's salts, esters and related substances	usage ban (25 ppb)		
GB-19	Short chain chlorinated paraffins C_{10-C13} (SCCP)	usage ban (30 mg/kg)		Extraction with organic solvent / GC-MS, DIN EN ISO 18219
		100 mg/kg (leather)		
GB-20	Medium chain chlorinated paraffins C_{14-C17} (MCCP)	100 mg/kg (leather)		Extraction with organic solvent / GC-MS, DIN EN ISO 18219
GB-21	Soluble mineral tanning agents			
	Aluminium (Al)	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)
	Chromium (Cr)			
	Titanium (Ti)			
Zirconium (Zi)				
GB-22	Isocyanates	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)		According to AfPS GS 2014:01 PAH, extraction with Toluene, determination with GC-MS
	Benzo(a)pyrene	usage ban (traces 0.2 mg/kg)		
	Benzo(e)pyrene	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)	
	Benzo(a)anthracene	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)	
	Chrysene	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)	
	Benzo(b)fluoranthene	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)	
	Benzo(j)fluoranthene	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)	
	Benzo(k)fluoranthene	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)	
	Dibenzo(a,h)anthracene	usage ban (traces 0.5 mg/kg)	usage ban (traces 1 mg/kg)	
	Acenaphthene	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)		According to AfPS GS 2014:01 PAH, extraction with Toluene, determination with GC-MS
	Acenaphthylene	usage ban (traces 10 mg/kg for sum of 18 PAHs)		
	Antracene			
	Benzo(ghi)perylene			
	Fluoranthene			
	Fluorene			
	Indeno(1,2,3-cd)pyrene			
	Naphthalene			
Phenanthrene				
Pyrene				
GB-24	Phthalates	usage ban (traces 50 mg/kg - sum of all Phthalates 1000 mg/kg)		DIN EN ISO 14389
GB-25	Polyvinylchloride (PVC)	usage ban		ATR-FT-IR spectroscopy
GB-26	Pesticides (incl. PCP / TetraCP)	usage ban (traces 0.5 mg/kg for sum of pesticides)		Extraction with organic solvent / GC-MS
GB-27	Biocide finish (In case biocide 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	usage ban		ISO 17881-1 for brominated flame retardants ISO 17881-2 for phosphorus flame retardants

GB-29	Nitrosamines (as substance and as reaction product from secondary amines e.g. in elastomers or rubbers)	usage ban (1.0 µg/kg)		GB/T 24513 or prEN 19577	
GB-30	pH - value	4.0 – 7.5	4.0 – 9.0	Textile: DIN EN ISO 3071	
		3.5 – 7.5 (leather)		Leather: DIN EN ISO 4045	
GB-31	Solvents / Volatile organic compounds (VOC) / Glycols				
	N,N-Dimethylformamide (DMFa)	usage ban (5 mg/kg)		CEN ISO/TS 16189	
		50 mg/kg (solvent coating and fiber manufacturing)			
	N,N-dimethylacetamide (DMAC)	usage ban (5 mg/kg)			
		10 mg/kg (solvent coating and fiber manufacturing)	50 mg/kg (solvent coating and fiber manufacturing)		
	N-Methylpyrrolidone (NMP)	10 mg/kg	100 mg/kg		
N-Ethyl-2-pyrrolidone (NEP)	10 mg/kg	100 mg/kg			
GB-31	Solvents / Volatile organic compounds (VOC) / Glycols				
	Toluene	10 mg/kg	50 mg/kg	Solvent extraction / GC-MS or Multiple Headspace / GC-MS	
	2-Ethoxyethylacetate	usage ban (5 mg/kg)			
	2-Ethoxyethanol (EGEE)	usage ban (5 mg/kg)			
	2-Methoxyethanol (EGME)	usage ban (5 mg/kg)			
	Trichloroethylene (TCE)	usage ban (5 mg/kg)			
	Formamide	50 mg/kg	100 mg/kg		
	Styrene	10 mg/kg			
	Vinylcyclohexene	1 mg/kg			
	Butadiene	1 mg/kg			
	Vinylchloride	0.1 mg/kg			
	Dichloromethane	usage ban (5 mg/kg)			
	Trichloromethane (chloroform)	usage ban (5 mg/kg)			
	Tetrachloromethane	usage ban (0.1 mg/kg)			
	1,1,2-Trichloroethane	usage ban (1 mg/kg)			
	1,1-dichloroethane	10 mg/kg			
	1,2-dichloroethane (EDC)	usage ban (1 mg/kg)			
	Perchloroethylene (PERC) / Tetrachloroethylene	usage ban (1 mg/kg)			
	Benzene	usage ban (5 mg/kg)			
	Bis(2-methoxyethyl)-ether	usage ban (5mg/kg)			
	Ethylene glycol dimethyl ether	usage ban (5mg/kg)			
	2-Methoxyethylacetate	usage ban (5mg/kg)			
	2-Methoxy-1-propanol	usage ban (5mg/kg)			
	Triethylene glycol dimethyl ether	usage ban (5mg/kg)			
	Cresol, all isomers	usage ban (10mg/kg)			Extraction with KOH // §64 LFGB B 82.02-8 or DIN EN ISO 17070

Solvents / Volatile organic compounds (VOC) / Glycols				
GB-31	2-Phenyl-2-propanol	1 mg/kg	10 mg/kg	Solvent extraction / GC-MS or Multiple Headspace / GC-MS
	Acetophenone	20 mg/kg		
	Phenol	100 mg/kg		
	Xylene, all isomers	usage ban (traces 1 mg/kg)		
		1 mg/kg (non-textiles)	10 mg/kg (non-textiles)	
GB-32	Fluorinated Greenhouse Gases (SF6, PFCs, HFCs)	usage ban (0.1 mg/kg)		Solvent extraction / GC-MS or Multiple Headspace / GC-MS
GB-33	Quinoline	50 mg/kg		Extraction with Methanol or THF // HPLC-MS/MS or HPLCADAD
Process perservative agents				
GB-34	2-Phenylphenol / ortho-Phenylphenol (OPP)	250 mg/kg	750 mg/kg	ISO 13365
	4-Chloro-3-methylphenol (CMC/CMK)	150 mg/kg	300 mg/kg	
	2-(Thiocyanomethylthio)benzothiazol (TCMBT)	250 mg/kg	500 mg/kg	
	2-Octylisothiazol (OIT)	50 mg/kg	100 mg/kg	
Heavy metals in packaging				
GB-35	Cadmium (Cd)	100 mg/kg (for sum of heavy metals)		Microwave digestion followed by ICP analysis (Chromium VI only: DIN EN ISO 17075)
	Chromium (Cr) VI			
	Lead (Pb)			
	Mercury (Hg)			
GB-36	Cobalt dichloride (in blue color-indicator)	usage ban		Determination of cobalt followed by ICP/MS, Determination of chloride by ion chromatography
GB-37	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.

Restrictions on harmful substances for materials with food or mouth contact
(must be fulfilled in addition to the requirements from page 2 to 6)

	RESTRICTED SUBSTANCES	LIMIT VALUES	TEST METHODS
GB-38	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-39	Overall migration	Limit value of <u>third</u> migrate:	
	3% acetic acid in aqueous solution (simulanz B)	10 mg/dm ²	ASU 80.30 part 1-3 N 1186, Commission Regulation (EU) No 10/2011 OM2 (3x10 d bei 40°C)
	95% ethanol and isooctane (simulanz D2)	10 mg/dm ²	Enamel - Netherlands: Commodities Act (Packaging and Consumer Articles) Netherlands; Food simulants, contact time, contact temperature and limits according Commodities Act.
50% ethanol (simulanz D1)	10 mg/dm ²		
GB-40	Total metal content		
	Chromium (Cr)	10 mg/kg	Microwave digestion followed by ICP-MS according to DIN EN ISO 17294-2
	Vanadium (V)	20 mg/kg	
	Zirconium (Zr)	100 mg/kg	
	Hafnium (Hf)	100 mg/kg	
	Cadmium (Cd)	40 mg/kg	
Lead (Pb)	40 mg/kg		
GB-41	Metals, specific migration	Limit value of <u>third</u> migrate:	
	Aluminium (Al)	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.
	Barium (Ba)	1 mg/kg food or food simulant	
	Cobalt (Co)	0,05 mg/kg food or food simulant	
	Copper (Cu)	5 mg/kg food or food simulant	
	Iron (Fe)	48 mg/kg food or food simulant	
	Lithium (Li)	0,6 mg/kg food or food simulant	
	Manganese (Mn)	0,6 mg/kg food or food simulant	
	Nickel (Ni)	0,02 mg/kg food or food simulant	
	Zinc (Zn)	5 mg/kg food or food simulant	
GB-42	Polyaromatic hydrocarbons (PAHs)		
	Sum of PAHs	0.2 mg/kg	According to AfPS GS 2014:01 PAH, extraction with Toluene, determination with GC-MS
	Benzo(a)pyren	0.2 mg/kg	
	Benzo (g,h,i) perylene	0.2 mg/kg	

GB-43	Polyaromatic hydrocarbons (PAHs), specific migration considering worst-case conditions	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-44	Phthalates, specific migration	Limit value of <u>third</u> migrate:	
	DBP	0.3 mg/kg	Commission Regulation (EU) No. 10/2011 Food simulants, Contact time and Contact temperature according Commission Regulation.
	BBP	30 mg/kg	
	DEHP	1.5 mg/kg	
	DINP	9 mg/kg	
	DIDP	9 mg/kg	
GB-45	Bisphenol A (BPA)	usage ban (0.05 mg/kg)	
GB-46	Primary aromatic amines	usage ban (traces <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.
GB-47	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
GB-48	Extractable heavy metals - migration with 0.5% citric acid	Limit value of <u>third</u> migrate:	
	Aluminium (Al)	5 mg/kg food	ASU B 80.03-1; 80.03-2; Based on EN 1388 Part 1 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).
	Antimony (Sb)	0.04 mg/kg food	
	Chromium (Cr)	0.25 mg/kg food	
	Cobalt (Co)	0.02 mg/kg food	
	Copper (Cu)	4 mg/kg food	
	Iron (Fe)	40 mg/kg food	
	Magnesium (Mg)	-	
	Manganese (Mn)	1.8 mg/kg food	
	Molybdenum (Mo)	0.12 mg/kg food	
	Nickel (Ni)	0.14 mg/kg food	
	Silver (Ag)	0.08 mg/kg food	
	Tin (Sn)	100 mg/kg food	
	Titanium (Ti)	-	
	Vanadium (V)	0.01 mg/kg food	
	Zinc (Zn)	5 mg/kg food	
	Arsenic (As)	0.002 mg/kg food	
	Barium (Ba)	1.2 mg/kg food	
	Beryllium (Be)	0.01 mg/kg food	
	Cadmium (Cd)	0.005 mg/kg food	
Lead (Pb)	0.01 mg/kg food		
Lithium (Li)	0.048 mg/kg food		
Mercury (Hg)	0.003 mg/kg food		
Thallium (Tl)	0.0001 mg/kg food		

GB-49	Peroxides	usage ban	Determination of peroxides, Ph. Eur. Method 2.5.5.
GB-50	Volatile organic matters VOM	0.5 % w/w	Gravimetric method, single specification - Depending on use (Germany)/ France and Switzerland 4 hours, 200°C
GB-51	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-52	Extractable heavy metals - migration with 4% acetic acid in aqueous solution	Limit value of <u>third</u> migrate:	
	Cadmium (Cd)	0.2 mg/article	Directive 2005/31/EC (amendment of Council Directive 84/500/EEC)
	Lead (Pb)	2 mg/article	
GB-53	Heavy Metals, extractable in ceramics/enamels	Limit value of <u>third</u> migrate:	
	Arsenic (As)	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)	1 mg/kg	
	Boron (B)	1 mg/kg	
	Cadmium (Cd)	0.01 mg/kg	
	Chromium (Cr)	0.1 mg/kg	
	Cobalt (Co)	0.05 mg/kg	
	Lithium (Li)	0.6 mg/kg	
	Lead (Pb)	0.1 mg/kg	
	Mercury (Hg)	0.005 mg/kg	
	Rubidium (Rb)	1 mg/kg	
	Selenium (Se)	0.01 mg/kg	
Strontium (Sr)	1 mg/kg		

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
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, 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 Foil Hangtags Sticker
Paper / Cardboard	Paper	Sole material Filling material Stabilization

***Emission of volatiles from shoe container, when measured directly after arrival in Hamburg, Germany
(fugitive air measurement)***

The listed substances shall not be found as a result of container gassing or out-gassing from the goods.
In general, the maximum allowable MAKs (= job concentration levels) are the base for the given restrictions.

RESTRICTED SUBSTANCES	CAS-No.	LIMIT VALUES [ml/m ³]	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 (CS ₂)	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

Appendix

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.

Appendix

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/>)

Appendix

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

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

GB-05 Alkylphenols (AP)

No.	Chemical Substance	CAS-No.
1	Nonylphenols (NP)	25154-52-3
2	Octylphenols (OP)	27193-28-8

Appendix

GB-06 Alkylphenoethoxylates (APEO)

No.	Chemical Substance	CAS-No.
1	Nonylphenoethoxylates (NPEO)	several
2	Octylphenoethoxylates (OPEO)	several

GB-07 Chlorinated phenols

No.	Chemical Substance	CAS-No.
1	Pentachlorophenol (PCP), salts, esters and compounds	87-86-5
2	Tetrachlorophenols (TetraCP), salts and compounds	25167-83-3
3	Trichlorophenols (TriCP), all isomers	25167-82-2
4	Monochlorophenols (MonoCP), all isomers	25167-80-0
5	Dichlorophenols (DiCP), all isomers	25167-81-1

GB-08 Orthophenylphenol

No.	Chemical Substance	CAS-No.
1	Orthophenylphenol (OPP)	90-43-7

GB-09 2,4-Dinitrotoluene

No.	Chemical Substance	CAS-No.
1	2,4-Dinitrotoluene (2,4-DNT)	121-14-2

Appendix

GB-10 Chlorinated –Benzenes and Toluenes (e.g. carrier, solvent)

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
11	Tetrachlorotoluenes, all isomers	76057-12-0 29733-70-8 875-40-1 2136-89-2 5216-25-1
12	Pentachlorotoluene	877-11-2

GB-11 Dimethylfumarate

No.	Chemical Substance	CAS-No.
1	Dimethylfumarate (DMFu)	624-49-7

GB-12 Formaldehyde

No.	Chemical Substance	CAS-No.
1	Formaldehyde	50-00-0

Appendix

GB-13 Extractable heavy metals

No.	Chemical Substance	CAS-No.
1	Antimony (Sb)	7440-36-0
2	Arsenic (As)	7440-38-2
3	Lead (Pb)	7439-92-1
4	Cadmium (Cd)	7440-43-9
5	Chromium (Cr) total (not for leather)	7440-47-3
6	Cobalt (Co)	7440-48-4
7	Copper (Cu)	7440-50-8
8	Nickel (Ni)	7440-02-0
9	Mercury (Hg)	7439-97-6
10	Barium (Ba)	7440-39-3

GB-14 Nickel release

No.	Chemical Substance	CAS-No.
1	Nickel (Ni)	7440-02-0

GB-15 Chromium (Cr) VI

No.	Chemical Substance	CAS-No.
1	Chromium (Cr) VI	18540-29-9

GB-16 Heavy metals in digested sample

No.	Chemical Substance	CAS-No.
1	Lead (Pb)	7439-92-1
2	Cadmium (Cd)	7440-43-9
3	Arsenic (As)	7440-38-2
4	Mercury (Hg)	7439-97-6
5	Chromium (Cr) VI	18540-29-9

Appendix

GB-17 Organotin compounds

No.	Chemical Substance	CAS-No.
1	Monomethyltin compounds (MMT)	Several
2	Monobutyltin (MBT)	78763-54-9
3	Monooctyltin (MOT)	several
4	Dibutyltin (DBT)	14488-53-0
5	Diphenyltin compounds (DPhT)	Several
6	Dioctyltin (DOT)	15231-44-4
7	Tributyltin (TBT)	36643-28-4
8	Tricyclohexyltin (TricycloHT)	several
9	Triphenyltin (TPhT)	668-34-8
10	Tetrabutyltin (TeBT)	1461-25-2
11	Tetraoctyltin (TeOT)	3590-84-9
12	Dimethyltin (DMT)	several
13	Trimethyltin (TMT)	several
14	Tripropyltin (TPT)	several
15	Trioctyltin (TOT)	several
16	Dipropyltin (DPT)	several
17	Monophenyltin (MPhT)	several
18	Tetraethyltin (TeET)	several

GB-18 PFOS and PFOA

No.	Chemical Substance	CAS-No.
1	Perfluorooctane sulfonates (PFOS)	several compounds
2	Perfluorooctanoic acid (PFOA) it's salts, esters and related substances	335-67-1 and others

GB-19 Short chain chlorinated paraffins

No.	Chemical Substance	CAS-No.
1	Short chain chlorinated paraffins C ₁₀ -C ₁₃ (SCCP)	85535-84-8

Appendix

GB-20 Medium chain chlorinated paraffins

No.	Chemical Substance	CAS-No.
1	Medium chain chlorinated paraffins C ₁₄ -C ₁₇ (MCCP)	85535-85-9

GB-21 Sum of soluble mineral tanning agents

No.	Chemical Substance	CAS-No.
1	Aluminum (Al)	91728-14-2
2	Chromium (Cr)	7440-47-3
3	Titanium (Ti)	7440-32-6
4	Zirconium (Zr)	7440-99-6

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

GB-23 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

Appendix

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

GB-25 Polyvinylchloride

No.	Chemical Substance	CAS-No.
1	Polyvinylchloride (PVC)	9002-86-2

Appendix

GB-26 Pesticides

No.	Chemical Substance	CAS-No.	No.	Chemical Substance	CAS-No.
1	2,4,5-T	93-76-5	38	Heptachlor	76-44-8
2	2,4-D	94-75-7	39	Hexachlorobenzene	118-74-1
3	Acetamiprid	135410-20-7 160430-64-8	40	Hexachlorocyclohexane (HCH), mixed isomers	608-73-1
4	Aldicarb	116-06-3	41	Heptachloroepoxide	1024-57-3
5	Aldrine	309-00-2	42	Imidachloprid	105827-78-9 138261-41-3
6	Azinophosethyl	2642-71-9	43	Isodrine	456-73-6
7	Azinophosmethyl	86-50-0	44	Kelevan	4234-79-1
8	Bromophos-ethyl	4824-78-6	45	Kepone	143-50-0
9	Captafol	2425-06-1	46	Lindane	58-89-9
10	Carbaryl	63-25-2	47	Malathion	121-75-5
11	Chlorbenzilate	510-15-6	48	MCPA	94-74-6
12	Chlordane	57-74-9	49	MCPB	94-81-5
13	Chlordimeform	6164-98-3	50	Mecoprop	93-65-2
14	Chlordecone	143-50-0	51	Metamidophos	10265-92-6
15	Chlorfenvinphos	470-90-6	52	Methoxychlor	72-43-5
16	Clothianidin	210880-92-5	53	Mirex	2385-85-5
17	Coumaphos	56-72-4	54	Monocrotophos	6923-22-4
18	Cyfluthrin	68359-37-5	55	Nitenpyram	150824-47-8
19	Cyhalothrin	91465-08-6	56	Parathion	56-38-2
20	Cypermethrin	52315-07-8	57	Parathion-methyl	298-00-0
21	DDD	53-19-0 72-54-8	58	Pentachlorophenol (PCP)	87-86-5
22	DDE	3424-82-6 72-55-9	59	Permethrin	52645-53-1
23	DDT	50-29-3 789-02-6	60	Perthane	72-56-0
24	DEF (Tribufos)	78-48-8	61	Phosdrin/ Mevinphos	7786-34-7
25	Deltamethrin	52918-63-5	62	Profenophos	41198-08-7
26	Diazinon	333-41-5	63	Propethamphos	31218-83-4
27	Dichlorprop	120-36-2	64	Phosphamidone	13171-21-6
28	Dicrotophos	141-66-2	65	Quinalphos	13593-03-8
29	Dieldrine	60-57-1	66	Strobane	8001-50-1
30	Dimethoate	60-51-5	67	Telodrin	297-78-9
31	Dinoseb and salts and acetats	88-85-7 et al.	68	Tetrachlorophenols (TetraCP)	25167-83-3
32	Dinotefuran	165252-70-0	69	Thiacloprid	111988-49-9
33	Endosulfan, α -	115-29-7	70	Thiamethoxam	153719-23-4
34	Endosulfan, β -	33213-65-9	71	Toxaphene	8001-35-2
35	Endrine	72-20-8	72	Trifluraline	1582-09-8
36	Esfenvalerate	66230-04-4	73	Silvex	93-72-1
37	Fenvalerat	51630-58-1			

Appendix

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-(aziridiny)-phosphin oxide (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-dibromopropyl)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

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

Appendix

GB-30 pH – value

No.	Chemical Substance	CAS-No.
1	pH – value	-

GB-31 Solvents / Volatile organic compounds (VOC) / Glycols

No.	Chemical Substance	CAS-No.
1	N,N-Dimethylformamide (DMFa)	68-12-2
2	N,N-dimethylacetamide (DMAC)	27-19-5
3	N-Methylpyrrolidone (NMP)	872-50-4
4	N-Ethyl-2-pyrrolidone (NEP)	2687-91-4
5	Toluene	108-88-3
6	2-Ethoxyethylacetate	111-15-9
7	2-Ethoxyethanol (EGEE)	110-80-5
8	2-Methoxyethanol (EGME)	109-86-4
9	Trichloroethylene (TCE)	79-01-6
10	Formamide	75-12-7
11	Styrene	100-42-5
12	Vinylcyclohexene	100-40-3
13	Butadiene	106-99-0
14	Vinylchloride	75-01-4
15	Dichloromethane	75-09-2
16	Trichloromethane (chloroform)	67-66-3
17	Tetrachloromethane	56-23-5
18	1,1,2-Trichloroethane	79-00-5
19	1,1-dichloroethane	75-35-4
20	1,2-dichloroethane (EDC)	107-06-2
21	Perchloroethylene (PERC) / Tetrachloroethylene	127-18-4
22	Benzene	71-43-2
23	Bis(2-methoxyethyl)-ether	111-96-6
24	Ethylene glycol dimethyl ether	110-71-4
25	2-Methoxyethylacetate	110-49-6
26	2-Methoxy-1-propanol	1589-47-5
27	Triethylene glycol dimethyl ether	112-49-2
28	Cresol, all isomers	1319-77-3
	m-Cresol	108-39-4
	o-Cresol	95-48-7
	p-Cresol	106-44-5
29	2-Phenyl-2-propanol	617-94-7
30	Xylene, all isomers	1330-20-7
	m-Xylene	108-38-3
	o-Xylene	95-47-6
	p-Xylene	106-42-3
31	Acetophenone	98-86-2
32	Phenol	108-95-2

Appendix

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

No.	Chemical Substance	CAS-No.
1	Sulphur hexafluoride (SF ₆)	2551-62-4
2	Perfluoromethane (CF ₄)	75-73-0
3	Perfluoroethane (C ₂ F ₆)	76-16-4
4	Perfluoropropane (C ₃ F ₈)	76-19-7
5	Perfluorobutane (C ₄ F ₁₀)	355-25-9
6	Perfluoropentane (C ₅ F ₁₂)	678-26-2
7	Perfluorohexane (C ₆ F ₁₄)	355-42-0
8	Perfluorocyclobutane (c-C ₄ F ₈)	115-25-3
9	HFC-23 - CHF ₃	75-46-7
10	HFC-32 - CH ₂ F ₂	75-10-5
11	HFC-41 - CH ₃ F	593-53-3
12	HFC-43-10mee - C ₅ H ₂ F ₁₀	138495-42-8
13	HFC-125 - C ₂ H ₂ F ₅	354-33-6
14	HFC-134 - C ₂ H ₂ F ₄	359-35-3
15	HFC-134a - CH ₂ FCF ₃	811-97-2
16	HFC-152a - C ₂ H ₄ F ₂	75-37-6
17	HFC-143 - C ₂ H ₃ F ₃	430-66-0
18	HFC-143a - C ₂ H ₃ F ₃	420-46-2
19	HFC-227ea - C ₃ H ₂ F ₇	431-89-0
20	HFC-236cb - CH ₂ FCF ₂ CF ₃	677-56-5
21	HFC-236ea - CHF ₂ CHFCF ₃	431-63-0
22	HFC-236fa - C ₃ H ₂ F ₆	690-39-1
23	HFC-245ca - C ₃ H ₃ F ₅	679-86-7
24	HFC-245fa - CHF ₂ CH ₂ CF ₃	460-73-1
25	HFC-365mfc - CF ₃ CH ₂ CF ₂ CH ₃	406-58-6

GB-33 Quinoline

No.	Chemical Substance	CAS-No.
1	Quinoline	91-22-5

GB-34 Process preservative agents:

No.	Chemical Substance	CAS-No.
1	2-Phenylphenol / ortho-Phenylphenol (OPP)	90-43-7
2	4-Chloro-3-methylphenol (CMC/CMK)	59-50-7
3	2-(Thiocyanomethylthio)benzothiazol (TCMBT)	21564-17-0
4	2-Octylisothiazol (OIT)	26530-20-1

Appendix

GB-35 Sum of heavy metals in packaging

No.	Chemical Substance	CAS-No.
1	Cadmium (Cd)	7440-43-9
2	Chromium (Cr) VI	7439-92-1
3	Lead (Pb)	7440-43-9
4	Mercury (Hg)	7439-97-6

GB-36 Cobalt dichloride

No.	Chemical Substance	CAS-No.
1	Cobalt dichloride	7646-79-9 7791-13-1

GB-37 REACH Candidate List of Substances of Very High Concern

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

Appendix

GB-40 Total metal content

No.	Chemical Substance	CAS-No.
1	Chromium (Cr)	7440-47-3
2	Vanadium (V)	7440-62-2
3	Zirconium (Zr)	7440-67-7
4	Hafnium (Hf)	7440-58-6
5	Cadmium (Cd)	7440-43-9
6	Lead (Pb)	7439-92-1

GB-41 Metals, specific migration

See CAS numbers of metals in section GB-53.

GB-42 Polyaromatic hydrocarbons (PAHs) and

GB-43 Polyaromatic hydrocarbons (PAHs), specific migration in 3% acetic acid

No.	Chemical Substance	CAS-No.
1	Acenaphthene	83-32-9
2	Acenaphthylene	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

Appendix

GB-44 Phthalates, specific migration

No.	Chemical Substance	CAS-No.
1	Dibutylphthalate (DBP)	84-74-2
2	Butylbenzylphthalate (BBP)	85-68-7
3	Di(2-ethylhexyl)phthalate (DEHP)	117-81-7
4	Di-iso-nonylphthalate (DINP)	28553-12-0
5	Di-iso-decylphthalate (DIDP)	26761-40-0

GB-45 Bisphenol A (BPA)

No.	Chemical Substance	CAS-No.
1	Bisphenol A (BPA)	80-05-7

GB-48 Extractable heavy metals - migration with 0.5% citric acid, GB-53 Heavy Metals, extractable in ceramics/enamels

No.	Chemical Substance	CAS-No.
1	Aluminium (Al)	7429-90-5
2	Antimony (Sb)	7440-36-0
3	Chromium (Cr)	7440-47-3
4	Cobalt (Co)	7440-48-4
5	Copper (Cu)	7440-50-8
6	Iron (Fe)	7439-89-6
7	Magnesium (Mg)	7439-95-4
8	Manganese (Mn)	7439-96-5
9	Molybdenum (Mo)	7439-98-7
10	Nickel (Ni)	7440-02-0
11	Silver (Ag)	7440-22-4
12	Tin (Sn)	7440-31-5
13	Titanium (Ti)	7440-32-6
14	Vanadium (V)	7440-62-2
15	Zinc (Zn)	7440-66-6
16	Arsenic (As)	7440-38-2
17	Barium (Ba)	7440-39-3
18	Beryllium (Be)	7440-41-7
19	Cadmium (Cd)	7440-43-9
20	Lead (Pb)	7439-92-1
21	Lithium (Li)	7439-93-2
22	Mercury (Hg)	7439-97-6
23	Thallium (Tl)	7440-28-0
24	Boron (B)	7440-42-8
25	Rubidium (Rb)	7440-17-7
26	Selenium (Se)	7782-49-2
27	Strontium (Sr)	7440-24-6