

TCHIBO Manufacturing Restricted Substances List (MRSL V4.0) - Implementation Guidance

Responsible handling of chemicals (including purchase, use and disposal) must be implemented at any steps of supply chains.

Detection limits have not been tested and compared extensively yet for each of the hazardous substances groups. Therefore research is required and more knowledge has to be gained before the limit values determined in this MRSL can become mandatory for the supply chains. Tchibo has committed to phase out discharges and losses of hazardous chemicals from the production and the products until 2020. Phase out means step by step elimination “not detectable to the limits of the best current technology”. To systematically phase out hazardous chemicals, the current laboratory and analytical technologies must be reproducible and comparable for each media or material which is subject to analysis.

Background levels (anthropogenic or natural) as well as best current technologies derived from waste water legal requirements will be considered in the revisions of this document.

Detection limits have not been tested and compared extensively yet for each of the hazardous substances groups in chemical inputs by the international chemical industry. Therefore research is required and more knowledge has to be gained before the limit values determined in this MRSL can become mandatory for the supply chains. Tchibo will engage in stakeholder initiatives to gain knowledge on the appearance of traces of hazardous substances in chemicals, analytical methods and detection limits for chemical formulations. Target of this engagement is the phase out of hazardous chemicals until 2020 by the international chemical industry. As a minimum requirement chemical inputs must comply with the MRSL values as stated in the MRSL of ZDHC/ German Partnership for Sustainable Textiles.

Detection limits have not been tested and compared extensively yet for each of the hazardous substances groups in final products. Therefore research is required and more knowledge has to be gained before the limit values determined in this MRSL can become mandatory for the supply chains. Detection limits of hazardous chemicals tested by accredited laboratories may vary between different labs and/or standards for certain materials. Additionally, methods might not be developed yet. Best current laboratory and analytical technologies must be reproducible and comparable for each product or material which is subject to analysis. Tchibo will work closely together with the accredited laboratories to work towards reproducible and comparable results according to best current technologies.

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEO): including all isomers (No intentional use)						
Nonylphenol (NP) mixed isomers	Nonylphenol	104-40-5	500 ppm (LCMS), (GCMS)	With reference to DIN EN ISO 18857 and followed by Liquid Chromatography – Mass Spectrometry (LC-MS) Analysis NPEO(1+2): GC/MS	Solvent extraction DIN EN ISO 18857 LC/MS mod, resp. NPEO(1+2): GC/MS	banned
		11066-49-2				banned
	4-Nonylphenol (branched)	25154-52-3				banned
		84852-15-3				banned
		1173019-62-9				banned
	Nonylphenol (mixed isomers)	90481-04-2				banned
Octylphenol (OP), mixed isomers		various	250 ppm (LCMS), (GCMS)	GC/MS, ASTM D7065 or equivalent, ISO 18857-2, ISO 18857-7 [*1], LC-MS [*2]	ISO 16182 for AP; APEO 1+2, APEO 1+2 [*1], LC-MS [*2]	banned
	4-(1,1,3,3-Tetramethylbutyl)phenol	140-66-9				banned
	Octylphenol	27193-28-8				banned
	4-Octylphenol	1806-26-4				banned
Nonylphenol ethoxylates (NPEO), NP1EO, NP2EO [*1] n ₃₋₁₈ [*2]		various	250 ppm (LCMS), (GCMS)	GC/MS, ASTM D7065 or equivalent, ISO 18857-2, ISO 18857-7 [*1], LC-MS [*2]	ISO 16182 for AP; APEO 1+2, APEO 1+2 [*1], LC-MS [*2]	banned
	Nonylphenol ethoxylated	9016-45-9				banned
	4-Nonylphenol, ethoxylated	26027-38-3				banned
	Nonylphenol ethoxylated	68412-54-4				banned
	Nonylphenol ethoxylated	127087-87-0				banned
Octylphenol ethoxylates (OPEO) OP1EO, OP2EO [*1] n ₃₋₁₈ [*2]		various	500 ppm (LCMS), (GCMS)	GC/MS, ASTM D7065 or equivalent, ISO 18857-2, ISO 18857-7 [*1], LC-MS [*2]	ISO 16182 for AP; APEO 1+2, APEO 1+2 [*1], LC-MS [*2]	banned
		9002-93-1				banned
	4-tert-Octylphenolethoxylate	9036-19-5				banned
	4-tert-Octylphenolethoxylate	68987-90-6				banned

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****		
Chlorobenzenes - Other isomers of mono-, di-, tri-, tetra-, penta- and hexa- chlorobenzene (No intentional use)								
Dichlorobenzene	1,2-dichlorobenzene	95-50-1	sum of other isomers of chlorobenzenes and toluenes: 200 ppm (GC/MS)	Liquid extraction GC-MS analysis EPA 8260 B, EPA 8270 D	Solvent extraction GC-MS analysis EPA 8260 B, EPA 8270 D	banned		
	1,3-Dichlorobenzene	541-73-1				banned		
	1,4-Dichlorobenzene	106-46-7				banned		
Tetrachlorobenzene	Tetrachlorobenzene (all isomers)	12408-10-5				banned		
	1,2,3,4-Tetrachlorobenzene	634-66-2				banned		
	1,2,3,5-Tetrachlorobenzene	634-90-2				banned		
	1,2,4,5-Tetrachlorobenzene	95-94-3				banned		
Pentachlorobenzene		608-93-5				banned		
Hexachlorobenzene		118-74-1				banned		
Trichlorobenzene	Trichlorobenzene (all isomers)	12002-48-1				banned		
	1,2,4-Trichlorobenzene	120-82-1				banned		
	1,2,3-Trichlorobenzene	87-61-6				banned		
	1,3,5-Trichlorobenzene	108-70-3				banned		
Chlorobenzene		108-90-7				tbd	tbd	banned
Chlorotoluenes - Mono-, di-, tri-, tetra- and penta- chlorotoluene (No intentional use)								
Chlorotoluenes	2-chlorotoluene	95-49-8	sum of other isomers of chlorobenzenes and toluenes: 200 ppm (GC/MS)	tbd	tbd	banned		
	3-chlorotoluene	108-41-8		EPA 8260 B, EPA 8270 D	EPA 8260 B, EPA 8270 D	banned		
	4-chlorotoluene	106-43-4		tbd	tbd	banned		
Dichlorotoluene	2,3-dichlorotoluene	32768-54-0				banned		
	2,4-dichlorotoluene	95-73-8				banned		
	2,5-dichlorotoluene	19398-61-9				banned		
	2,7-dichlorotoluene	118-69-4				banned		
	3,4-dichlorotoluene	95-75-0				banned		
Trichlorotoluene	2,3,6-trichlorotoluene	2077-46-5				banned		
	2,4,5-trichlorotoluene	6639-30-1				banned		
	alfa, 2,4-trichlorotoluene	98-07-7				banned		
	alfa,2,6-trichlorotoluene	94-99-5				banned		
Benzotrifluoride	alfa,3,4-trichlorotoluene	2014-83-7				banned		
		102-47-6				banned		
Tetrachlorotoluene	alpha, alpha, 2,6-tetrachlorotoluene	81-19-6		banned				
	alpha, alpha, alpha, 2,-tetrachlorotoluene	2136-89-2	banned					
	alpha, alpha, alpha, 4,-tetrachlorotoluene	5216-25-1	banned					
Pentachlorotoluene	2,3,4,5,6-pentachlorotoluene	877-11-2	banned					
	Benzyl chloride; α-chlorotoluene	100-44-7	banned					
	α,α-Dichlorotoluene (Benzal chloride)	98-87-3	banned					

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
Chlorophenols - Mono-, di-, tri-, tetra- and penta- chlorophenols (No intentional use)						
Tetrachlorophenols	Tetrachlorophenols (TeCP)	25167-83-3	sum 20 ppm (GC-MS/ EN ISO 17070)			banned
	2,3,4,5-Tetrachlorophenol	4901-51-3				banned
	2,3,4,6-Tetrachlorophenol	58-90-2				banned
	2,3,5,6-Tetrachlorophenol	935-95-5				banned
Pentachlorophenols		87-86-5	sum 50 ppm (GC-MS/ EN ISO 17070)	Liquid extraction, derivatisation, with acetic anhydride, GC-MS analysis EN 12673 (EPA 8270 D)	Solvent extraction, derivatisation, with acetic anhydride, GC-MS analysis ISO 14154 (EPA 8270 D)	banned
Trichlorophenols	Trichlorophenols (TrCP)	25167-82-2				banned
	2,4,6-trichlorophenol	88-06-2				banned
	2,3,4-trichlorophenol	15950-66-0				banned
	2,3,5-trichlorophenol	933-78-8				banned
	2,3,6-trichlorophenol	933-75-5				banned
	2,4,5-trichlorophenol	95-95-4				banned
Dichlorophenols	3,4,5-trichlorophenol	609-19-8				banned
	Dichlorophenols (DiCP)	25167-81-1				banned
	2,3-dichlorophenol	576-24-9				banned
	2,4-dichlorophenol	120-83-2				banned
	2,5-dichlorophenol	583-78-8				banned
	3,4-dichlorophenol	95-77-2				banned
	2,6-Dichlorophenol	87-65-0	banned			
Monochlorophenols	3,5-dichlorophenol	591-35-5	banned			
	2-Chlorophenol	95-57-8	banned			
	3-chlorophenol	108-43-0	banned			
	4-chlorophenol	106-48-9	banned			

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****			
Dyes and Pigments - Azo (Forming Restricted Amines) and further threshold limits on impurities									
(The following substance group is not expected to be used intentionally in the production of textiles. Tchibo will engage in stakeholder initiatives towards the reduction/ phase out of contaminations of the substances in productions.) To avoid the use of colourants in production, which are known to release carcinogenic aromatic amines, suppliers shall forward the IFOP list (2001) to their chemical suppliers as guidance. (http://www.tegewa.de/uploads/media/Azodyes_pursuant_to_TRGS_614_TEGEWA.pdf)									
A recommendation for threshold limits for further relevant organic impurities like Quinoline, PCB, Dioxins and Furans is given in the "ETAD recommendation for threshold limits on impurities in dyes (2014)" (http://etad.com/en/publications.html).									
Legally restricted amines e.g. Annex XVII (REACH), GB18401-2010	4-Aminodiphenyl	92-67-1	each 150 ppm (LC/ GC)	With reference to EN 14362:1&3 and followed by gas chromatographic – Mass Spectrometric (GC-MS) and high Performance Liquid Chromatographic (HP LC) analysis DIN EN 14362	EN 14362 modified GC/MS resp. HPLC DIN EN 14362	banned			
	Benzidine	92-87-5				banned			
	4-Chlor-o-toluidine/ 4-chloro-o-toluidinium chloride	95-69-2/ 3165-93-3				banned			
	2-Naphthylamine/ 2-Naphthylammoniumacetate	91-59-8/ 553-00-4				banned			
	o-Aminoazotoluene (Solvent Yellow 3)	97-56-3				banned			
	2-Amino-4-nitrotoluene / 5-nitro-o-toluidine	99-55-8				banned			
	p-Chloroaniline / 4-chloroaniline	106-47-8				banned			
	2,4-Diaminoanisole / 4-methoxy-m-phenylenediamine/4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	615-05-4/ 39156-41-7				banned			
	4,4'-Diaminodiphenylmethane / 4,4'-methylenedianiline	101-77-9				banned			
	3,3'-Dichlororbenzidine	91-94-1				banned			
	3,3'-Dimethylbenzidine	119-93-7				banned			
	3,3'-Dimethyl-4,4'-diaminodiphenylmethane / 4,4'-methylendi-o-toluidine	838-88-0				banned			
	p-Cresidine / 6-methoxy-m-toluidine	120-71-8				banned			
	4,4'Methylen-bis-(2-chloroaniline)	101-14-4				banned			
	4,4'-Oxydianiline	101-80-4				banned			
	4,4'-Thiodianiline	139-65-1				banned			
	o-Toluidine	95-53-4				banned			
	2,4-Toluyldiamine / 5-nitro-o-toluidine / 4-methyl-m-phenylenediamine	95-80-7				banned			
	2,4,5-Trimethylaniline/ 2,4,5-trimethylaniline hydrochloride	137-17-7/ 21436-97-5				banned			
	o-Ansidine (2-Methoxyaniline)	90-04-0				banned			
	2,4-Xylidine (2,4-Dimethylaniline)	95-68-1				banned			
	4-aminoazobenzene (Aminoazobenzene/ Solvent Yellow 1)	60-09-3				banned			
	2,6-Xylidine (2,6-Dimethylaniline)	87-62-7				banned			
	3,3'-Dimethoxybenzine	119-90-4				banned			
	Aniline	62-53-3				tbd	tbd	tbd	banned
	2-nitroanisole	91-23-6							banned
2-nitronaphthalene	581-89-5	banned							
Azobenzene	103-33-3	banned							
Michler's base (N,N,N',N'-tetramethyl-4,4'-methylenedianiline)	101-61-1	banned							
N-(2-Naphthyl)anilin	135-88-6	banned							
Anthraquinone	84-65-1	banned							
anthraquinone, 1-hydroxy	129-43-1	banned							
benzophenone, 4,4'-bis(dimethylamino)- [Michler's ketone]	90-94-8	banned							
Quinoline	91-22-5	1000 ppm	tbd	tbd	banned				
Dyes - Navy Blue Colourant (No intentional use)									
	Component 1 (Navy blue)	118685-33-9	250 ppm	tbd	tbd	banned			
	Component 2 (Navy blue)	Not Allocated	(LC)			banned			

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
Dyes and Pigments - Carcinogenic or Equivalent Concern + Disperse sensitizing dyestuffs (No intentional use) - Part 1						
	Acid Red 26	3761-53-3	each 250 ppm (LC)	tbd	tbd	banned
	Basic Red 9	569-61-9				banned
	Basic Violet 14	632-99-5				banned
	Direct Black 38	1937-37-7				banned
	Direct Blue 6	2602-46-2				banned
	Direct Red 28	573-58-0				banned
	Basic Blue 26 (with Michler's Ketone >0,1%)	2580-56-5				banned
	Disperse Blue 1	2475-45-8				banned
	Disperse Orange 11	82-28-0				banned
	Disperse Yellow 3	2832-40-8				banned
	Disperse Blue 3	2475-46-9				banned
	Disperse Blue 7	3179-90-6				banned
	Disperse Blue 26	3860-63-7				banned
	Disperse Blue 35	12222-75-2 / 56524-77-7				banned
	Disperse Blue 102	12222-97-8				banned
	Disperse Blue 106	12223-01-7				banned
	Disperse Blue 124	61951-51-7				banned
	Disperse Brown 1	23355-64-8				banned
	Disperse Orange 1	2581-69-3				banned
	Disperse Orange 3	730-40-5				banned
	Disperse Orange 37/76/59	13301-61-6				banned
	Disperse Red 1	2872-52-8				banned
	Disperse Red 11	2872-48-2				banned
	Disperse Red 17	3179-89-3				banned
	Disperse Yellow 1	119-15-3				banned
	Disperse Yellow 9	6373-73-5				banned
	Disperse Yellow 39	12236-29-2				banned
	Disperse Yellow 49	54824-37-2				banned
	Disperse Yellow 23	6250-23-3				banned
	Solvent Yellow 2	60-11-7 (EN 71-9)				banned
	Solvent Yellow 14	842-07-9				banned
	Direct Brown 95	16071-86-6				banned
	Basic Violet 1	8004-87-3 (EN 71-9)				banned
	Direct Blue 15	2429-74-5	banned			
	Direct Blue 218	28407-37-6	banned			
	Acid Red 114	6459-94-5	banned			
	Acid Violet 49	1694-09-3	banned			
	Disperse Orange 149	85136-74-9	banned			
			tbd			banned

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
Dyes and Pigments - Carcinogenic or Equivalent Concern + Disperse sensitizing dyestuffs (No intentional use) - Part 2						
	Basic Green 4 (malachite green chlorite)	569-64-2	each 250 ppm (LC)			banned
	Basic Green 4 (malachite green oxalate)	18015-76-4/ 2437-29-8				banned
	Basic Green 4 (malachite green)	10309-95-2	tbd	tbd	tbd	banned
	Basic Green 4 leuco base	129-73-7				banned
	Pigment Yellow 34	1344-37-2				banned
	Pigment Red 104	12656-85-8				banned
	Pigment Black 25	68186-89-0				banned
	Pigment Yellow 157	68610-24-2				banned
	Acid Orange 24	1320-07-6				banned
	Basic Violet 3 (> 0.1% Michlers Ketone)	548-62-9 / 603-48-5 / 14426-25-6				banned
	Direct Black 91	6739-62-4				banned
	Direct Blue 76	16143-79-6				banned
	Solvent Blue 4	6786-83-0				banned
	Disperse Blue 291	83929-84-4 / 56548-64-2				banned
	Disperse Red 15	116-85-8				banned
	Disperse Violet 93	52697-38-8				banned
	Disperse Yellow 54	7576-65-0				banned
	Disperse Yellow 64	10319-14-9 / 12223-86-8				banned
	Rhodamin B	81-88-9				banned
	Pigment Brown 22	29398-96-7				banned
	Auramine hydrochloride/ Basic Yellow 2	2465-27-2				banned
	(methylenabis(4,1-phenylenazo(1-(3-(dimethylamino)propyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxopyridine-5,3-diy)))-1,1'-dipyridinium dichloride dihydrochloride	118658-99-4				banned

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
Flame Retardants (No Intentional use)						
	Polybrominated diphenyl ethers (PBDE) others			ISO 22032 or EPA 527, EPA 8321B	EPA 527, ISO/DIN 22032 or equivalent	banned
	Tris(2-chloroethyl)phosphate	115-96-8				banned
	Decabromodiphenyl ether	1163-19-5				banned
	Tris(2,3-dibromopropyl)-phosphate	126-72-7				banned
	Pentabromodiphenyl ether	32534-81-9				banned
	Octabromodiphenyl ether	32536-52-0				banned
	Tetrabromobisphenol A	79-94-7				banned
	Monobromo diphenyl ethers	not explicitly mentioned				banned
	Dibromo diphenyl ethers	not explicitly mentioned				banned
	Tribromo diphenyl ethers	not explicitly mentioned				banned
	Tetrabromo diphenyl ethers	40088-47-9				banned
	Hexabromo diphenyl ethers	36483-60-0				banned
	Heptabromo diphenyl ethers	68928-80-3				banned
	Nonabromo diphenyl ethers	63936-56-1				banned
	Monobromo biphenyls	not explicitly mentioned	250 ppm each (GC/MS)	By toluene extraction and followed by liquid chromatography - mass spectrometry (LC-MS) and gas chromatography - mass spectrometry (GC-MS) analysis	Extraction with toluene, GC-MS resp. LC/MS	banned
	Dibromo biphenyls	not explicitly mentioned				banned
	Tribromo biphenyls	not explicitly mentioned				banned
	Tetrabromo biphenyls	not explicitly mentioned				banned
	Pentabromo biphenyls	not explicitly mentioned				banned
	Hexabromo biphenyls	not explicitly mentioned				banned
	Heptabromo biphenyls	not explicitly mentioned				banned
	Octabromo biphenyls	not explicitly mentioned				banned
	Nonabromo biphenyls	not explicitly mentioned				banned
	Decabromo biphenyl	13654-09-6				banned
	Hexabromocyclododecan (alpha, beta, gamma)	25637-99-4 / 134237-50-6 / 134237-51-7 / 134237-52-8 / 3194-55-6				banned
	Polybromobiphenyls / Polybrominated biphenyls	59536-65-1				banned
	Tris(1-chloro-2-propyl) phosphate (TCPP)	13674-84-5				banned
	Sodium tetraborate	1303-96-4/ 1303-43-4 / 12179-04-3 / 215-540-4				banned
	Boron trioxide	1303-86-2				banned
	Boric acid	10043-35-3 / 11113-50-1				banned
	Antimony trioxide	1309-64-4				banned
	Antimony pentoxide	1314-60-9				banned
	Tri-o-cresyl phosphate	78-30-8	tbd			banned
	Trixylyl phosphate	25155-23-1				banned
	Tetrabromobisphenol A bis (2,3-dibromopropylether)	21850-44-2		tbd	tbd	banned
	1,6,7,8,9,14,15,16,17,18,18-Dodecachloropentacyclo[12.2.1.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus™") covering any of its individual anti- and syn-isomers or any combination thereof	13560-89-9 135821-74-8 135821-03-3				banned
	Bis(2,3-dibromopropyl)phosphate	5412-25-9				banned
	Tris(1-aziridinyl)phosphine oxide (TEPA)	545-55-1	250 ppm each (GC/MS)			banned
	Hexabromocyclodecane	3194-55-6				banned
	2,2-bis(bromomethyl)-1,3-propanediol	3296-90-0				banned
	Tris(1,3-dichloro-isopropyl) phosphate	13674-87-8				banned

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****	
Chlorinated Paraffins (No intentional use)							
	Short-Chain chlorinated Paraffins (C10-13) (SCCP)	85535-84-8	50 ppm (GC/MS)	Liquid extraction with toluene, GC-MS resp. LC/MS analysis EPA 8082 or ISO 12010 equivalent	Solvent extraction with toluene, GC-MS resp.LC/MS analysis GC/ECD modified EPA 8082 or ISO 10382 (MS confirmation)	banned	
	Middle-Chain chlorinated Paraffins (C14-17) (MCCP)	85535-85-9	tbd	tbd	tbd	banned	
	Long-Chain chlorinated Paraffins (C18-28) (LCCP)	85535-86-0	tbd			banned	
Glycols (No intentional use)							
	Bis(2-methoxyethyl)-ether	111-96-6	50 ppm each (HPLC, LC-MS)	EPA 8270	tbd	banned	
	2-ethoxyethanol	110-80-5				banned	
	2-ethoxyethyl acetate	111-15-9				banned	
	Ethylene glycol dimethyl ether	110-71-4				banned	
	2-methoxyethanol	109-86-4				banned	
	2-methoxyethylacetate	110-49-6				banned	
	2-methoxypropylacetate	70657-70-4				banned	
	Triethylene glycol dimethyl ether, glycol ether Glycol; triglyme (TEGDME)	112-49-2				banned	
	2-(2-methoxyethoxy)-ethanol	111-77-3					
	2-methoxypropanol	1589-47-5	tbd	tbd		banned	
	glycol ether 1,2-diethoxyethane	629-14-1				banned	
Solvents - Halogenated solvents (No intentional use)							
	1,2-Dichloroethane	107-06-2	5 ppm (GC/MS)	By headspace gas chromatography mass spectrometric (HS – GC/MS) analysis EPA 8260 B, ISO 10301	GC-MS headspace analysis EPA 8260 B or equivalent	banned	
	Methylene chloride / Dichloromethane	75-09-2	5 ppm (GC/MS)			banned	
	Trichloroethylene	79-01-6	40 ppm (GC/MS)			banned	
	Tetrachloroethylene	127-18-4	5 ppm (GC/MS)			banned	
	Chloroform (Trichloromethane)	67-66-3	tbd			banned	
	Tetrachloromethane (Carbon tetrachloride)	56-23-5				banned	
	1,1-Dichloroethane	75-34-3				banned	
	1,1,1-trichloroethane	71-55-6				banned	
	1,1,1,2-Tetrachloroethane	630-20-6				banned	
	1,1,2,2-Tetrachloroethane	79-34-5				banned	
	Pentachloroethane	76-01-7				banned	
	1,1-Dichloroethylene	75-35-4				banned	
	1,1,2-Trichloroethane	79-00-5				banned	
	1,2,3-trichloropropane	96-18-4					tbd

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****	
Solvents - Other solvents including petroleum distillates (No intentional use)							
Aromatic solvents	Benzene	71-43-2	50 ppm (GC-MS)	ISO 11423-1	tbd	banned	
	o-,p-,m-Xylene	1330-20-7 (all isomers) 95-47-6 / 106-42-3 / 108-38-3	500 ppm (GC-MS)			banned	
	Toluene	108-88-3	tbd	tbd	banned		
	Ethylbenzene	100-41-4			banned		
	Distillate aromatic extract	64742-04-7			banned		
	Benzin 140 - 300 (A complex combination of hydrocarbons, It consists predominantly of aliphatic, alicyclic and aromatic hydrocarbons.)	8002-05-9	banned				
	Aromatic naphtha, type 1	64742-95-6	banned				
	Aromatic petroleum derivative solvent	68477-31-6	banned				
Coal Tar oil (Composed primarily of naphthalene, alkylnaphthalenes, phenolic compounds, and aromatic nitrogen bases)	65996-82-9/ 65996-83-0	banned					
Polycyclic Aromatic Hydrocarbons (PAHs) (No intentional use)							
	Benzo[a]pyrene	50-32-8	20 ppm (GC-MS)	ISO 28540	DIN ISO 18287	banned	
	Benzo[e]pyrene	192-97-2	sum 200 ppm (GC-MS)			banned	
	Benzo[j]fluoranthene	205-82-3				banned	
	Benzo[b]fluoranthene	205-99-2				banned	
	Benzo[k]fluoranthene	207-08-9				banned	
	Chrysene	218-01-9				banned	
	Dibenzo[a,h]anthracene	53-70-3				banned	
	Benzo[a]anthracene	56-55-3				banned	
	Anthracene	120-12-7				banned	
	Pyrene	129-00-0				banned	
	Benzo[g,h,i]perylene	191-24-2				banned	
	Indeno[1,2,3-cd]pyrene	193-39-5				banned	
	Flouranthene	206-44-0				banned	
	Acenaphthylene	208-96-8				banned	
	Acenaphthene	83-32-9				banned	
	Phenanthrene	85-01-8				banned	
	Fluorene	86-73-7				banned	
	Naphthalene	91-20-3				banned	
	Cyclopenta[c,d]pyrene	27208-37-3				banned	
	Dibenzo[a,e]pyrene	192-65-4				tbd	tbd
	Dibenzo[a,h]pyrene	189-64-0		banned			
	Dibenzo[a,i]pyrene	189-55-9	banned				
	Dibenzo[a,j]pyrene	191-30-0	banned				
	1-Methylpyrene	2381-21-7	banned				
	Polycyclic Aromatic Compounds (PACs)	130498-29-2	banned				
	9,10-Benzophenanthren	217-59-4	banned				
	Coal tar pitch	65996-93-2	banned				
	Anthracene oil	90640-80-5	banned				
	Anthracene oil, anthracene paste	90640-81-6	banned				
	Anthracene oil, anthracene low	90640-82-7	banned				
	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	banned				
	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	banned				

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
Organotin Compounds (DBT, Mono-, di- and tri-methyltin derivatives, Mono-, di- and tri-butyltin derivatives; Mono-, di- and tri-phenyltin derivatives; Mono-, di- and tri-octyltin derivatives (multiple CAS No) (No intentional use)						
	Dibutyltin (DBT)	1002-53-5	20 ppm (GC-MS, LRMS)	With reference to DIN EN17353 and followed by gas chromatography-mass spectrometry (GC-MS) analysis ISO 17353	Solvent extraction, derivatisation with tetraethylborate, GC/MS ISO 23161	banned
	Monobutyltin (MBT)	1118-46-3 / 78763-54-9	5 ppm (GC-MS, LRMS)			banned
	Monooctyltin (MOT)	15231-57-9 / 15231-44-4	5 ppm (GC-MS, LRMS)			banned
	Diocetyl tin (DOT)	94410-05-6 / 15231-44-4	5 ppm (GC-MS, LRMS)			banned
	Bis(tri-n-butyltin)oxide (TBTO)	56-35-9	5 ppm (GC-MS, LRMS)			banned
	Tributyltin (TBT)	56573-85-4 / 36643-28-4	5 ppm (GC-MS, LRMS)			banned
	Triphenyltin (TPhT)	892-20-6 / 668-34-8	5 ppm (GC-MS, LRMS)			banned
	Diphenyltin (DPhT)	1011-95-6 / 6381-06-2	5 ppm (GC-MS, LRMS)			banned
	Dibutyltin dichloride (DBTC)	683-18-1	5 ppm (GC-MS, LRMS)			banned
	Tetraethyltin (TeET)	597-64-8	tbd			banned
	Tricyclohexyltin (TCyHT)	6056-50-4	tbd			banned
	Tripropyltin (TPT)	668-34-8	tbd			banned
	Dibutyltin hydrogen borate (DBB)	75113-37-0	tbd			banned
	Tetrabutyltin (TeBT)	1461-25-2	tbd			banned
Perfluorinated and Polyfluorinated Chemicals and its salts (PFCS) (No intentional use)						
	PFOS	1763-23-1 / 45298-90-6	sum 2 ppm (LC-MS)	C EN/TS 15968:2010, LC/MS analysis - modified DIN 38407-42	Solvent extraction CEN/TS 15968:2010, LC/MS analysis - modified LC-MS-MS	banned
	PFOA	335-67-1	2 ppm (LC-MS)			banned
	PFNA	375-95-1				banned
	PFPeA	2706-90-3				banned
	PFBS	375-73-5 / 59933-66-3				banned
	PFHxS	355-46-4				banned
	PFHxS (for complete list of CAS numbers see SVHC candidate list)	355-46-4				banned
	PFBA	375-22-4				banned
	PFHpA	375-85-9				banned
	PFDA	335-76-2				banned
	PFUnA / Henicosafluoroundecanoic acid (PFUDA)	2058-94-8				banned
	PFDoA	307-55-1				banned
	PFTTrA / Pentacosfluorotridecanoic acid (PFTTrDA)	72629-94-8				banned
	PFTeA / Heptacosfluorotetradecanoic acid (PFTeDA)	376-06-7				banned
	PFHpS	375-92-8				banned
	PFDS	335-77-3				banned
	PF-3,7-DMOA	172155-07-6	tbd			banned
	HPFHpA	1546-95-8				banned
	4HPFUnA	34598-33-9				banned
	1H, 1H, 2H, 2H-PFOS	27619-97-2				banned
	4:2 FTOH(**)	2043-47-2				banned
	6:2 FTOH(**)	647-42-7				banned
	8:2 FTOH(**)	678-39-7				banned
	10:2 FTOH(**)	865-86-1				banned
	POSF(**)	307-35-7				banned
	PFOSA	754-91-6				banned
	N-Me-FOSA	31506-32-8				banned
	N-Et-FOSA	4151-50-2				banned
	N-Me-FOSE alcohol	24448-09-7				banned
	N-Et-FOSE alcohol	1691-99-2				banned
	6:2 FTA(**)	17527-29-6				banned
	8:2 FTA(**)	27905-45-9				banned
	10:2 FTA(**)	17741-60-5				banned
	Ammonium nonadecafluorodecanoate	3108-42-7				banned

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****	
	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3830-45-3 335-76-2 3108-42-7	tbd	C EN/TS 15968:2010, LC/MS analysis - modified DIN 38407-42	Solvent extraction CEN/TS 15968:2010, LC/MS analysis - modified LC-MS-MS	banned	
	nonadecafluoro-, sodium salt	21049-39-8				banned	
	Sodium salts of perfluorononan-1-oic-acid	4149-60-4				banned	
	Ammonium salts of perfluorononan-1-oic-acid	3825-26-1				banned	
	Ammonium pentadecafluorooctanoate (APFO)					banned	
Phthalates - including all other esters of ortho-phthalic acid							
	Di-pentylphthalate (n-, iso-, or mixed)	131-18-0 / 605-50-5 / 776297-69-9 / 84777-06-0	tbd	Toluene extraction and followed by gas chromatography - mass spectrometry (GC-MS) analysis resp. LC/MS EPA 8270 or ISO 16183 equivalent EPA 8270 or ISO 18856	Extraction with toluene, GC-MS resp. LC/MS EPA 8270 or ISO 16183 equivalent	banned	
	Di-iso-nonylphthalate (DINP)	28553-12-0 / 68515-48-0	sum: 250 ppm (GC-MS)			banned	
	Di-n-octylphthalate (DNOP)	117-84-0				banned	
	Di-(2-ethylhexyl)-phthalate (DEHP)	117-81-7				banned	
	Di-iso-decylphthalate (DIDP)	26761-40-0 / 68515-49-1				banned	
	Butylbenzylphthalate (BBP)	85-68-7				banned	
	Dibutylphthalate (DBP)	84-74-2				banned	
	Di-iso-butylphthalate (DIBP)	84-69-5				banned	
	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6				banned	
	1,2-benzenedicarboxylic acid, di-C7-11-branched linearalkyl and linear alkyl esters (DHNUP)	68515-42-4				banned	
	Di-n-hexylphthalate (DnHP)	84-75-3				banned	
	Di-(2-methoxyethyl)-phthalate, Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8				banned	
	Dinonyl phthalate (DNP)	84-76-4				tbd	banned
	Diethyl phthalate (DEP)	84-66-2					banned
	Di-n-propyl phthalate (DPRP)	131-16-8					banned
	Di-cyclohexyl phthalate (DCHP)	84-61-7					banned
	Di-iso-octyl phthalate (DIOP)	27554-26-3					banned
	Di-cyclohexylphthalate, DCHP	84-61-7					banned
	Di-hexylphthalate, branched and linear, DHxP	68515-50-4					banned
	Di-iso-hexylphthalate, DIHxP	71850-09-4					banned
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters, 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68515-51-5, 68648-93-1	banned					
Heavy metals and Inorganic compounds							
Listed compounds are banned from intentional use in textile manufacturing/finishing. Additionally, residual traces of metals in dyestuff and pigment mixtures are expected to comply with the Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD) concentration limits (http://www.etad.com/). Tchibo further will engage in stakeholder initiatives towards the reduction/ phase out of the metals and their compounds in production.							
	Chromium VI (Cr VI)	18540-29-9	10 ppm (ICP-OES, AAS)	Digestion, ICP analysis EPA 7196 A, EPA 7199	Digestion, ICP analysis EPA 7196 A	banned	
	Chromium (Cr)	7440-47-3	declaration of non-use for leather tanning	Digestion, ICP analysis EPA 7196 A, EPA 7200	Digestion, ICP analysis EPA 7196 A	banned	
	Lead (Pb)	7439-92-1	100 ppm (ICP-OES, AAS)	Digestion, ICP analysis EPA 6010/6020 or ISO 11885, ISO 17294-2 and ISO 17852	Digestion, ICP analysis EPA 3051A, EPA 6020 A or ISO/DIN 11466 equivalent	banned	
	Cadmium (Cd)	7440-43-9	20/ 50 ppm for pigments ppm (ICP-OES, AAS)			banned	
	Arsenic (As)	7440-38-2	50 ppm (ICP-OES, AAS)			banned	
	Mercury (Hg)	7439-97-6	4 ppm/ 25 ppm for pigments (ICP-OES, AAS)			banned	

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
Fibrous minerals - Asbestos and Erionite (No intentional use)						
	Actinolite	77536-66-4	not detected	tbd	tbd	banned
	Amosite	12172-73-5				banned
	Anthrophyllite	77536-67-5				banned
	Chrysotile	12001-29-5				banned
	Crocidolite	12001-28-4				banned
	Tremolite	77536-68-6				banned
	Erionite	12510-42-8				banned
Biocides						
	Triclosan	3380-34-5	declaration of non-use as biocidal finishing on the product	tbd	tbd	banned
	Dimethyl fumarate (DMFu)	624-49-7				banned
	Halogenated and non-halogenated Isothiazolinone-derivatives	several				banned
	o-Phenylphenol	90-43-7				banned
	Silver chloride/ Silver	7783-90-6/ 7440-22-4				banned
	Permethrin	2645-53-1				banned
	Deltamethrin	52918-63-5				banned
	2-Chloroacetamide	79-07-2				banned
	Dichlorophene [2,2'-Methylenbis(4-chlorophenol)]	97-23-4	banned			
Additional substances - possible usage in textile and rubber production						
	o-Cresol	95-48-7	500 ppm (GC/MS)	ISO 11423-1	tbd	banned
	p-Cresol	106-44-5	500 ppm (GC/MS)			banned
	m-Cresol	108-39-4	500 ppm (GC/MS)			banned
	musk xylene	81-15-2	tbd	tbd	tbd	banned
	Potassium Permanganate	7722-64-7	declaration of	tbd	tbd	banned
	Sodium Chlorite/ Hypochlorite	7758-19-2/ 7681-52-9	non-use for denim garment finishing	tbd	tbd	banned
Nitrosamines (relevant for rubber/ latex production. Appropriate chemical inputs must be used/ process control must be installed to avoid formation)						
	N-Nitrosodiethylamin	55-18-5	tbd	tbd	tbd	banned
	N-Nitrosodipropylamin	621-64-7				banned
	N-Nitrosodibutylamin	924-16-3				banned
	N-Nitrosomorpholin	59-89-2				banned
	N-Nitrosopiperidin	100-75-4				banned
	N-Nitrosomethylphenylamin	614-00-6				banned
	N-Nitrosoethylphenylamin	612-64-6				banned
	N-Nitrosopyrrolidine (NPYR)	930-55-2				banned
	N-Nitrosodimethylamine	62-75-9				banned
	N-Nitrosodiisopropylamin	601-77-4				banned
	N-Nitrosodiisobutylamin	997-95-5				banned
	N-Nitrosodiisononylamin (N-Nitroso-N,N-di (3,5,5-trimethyl-hexyl)amin)	1207995-62-7				banned
	N-Nitrosodibenzylamin	5336-53-8				banned
	N-Nitrosomethylethylamine	10595-95-6				banned
	N-Methyl-N'-nitro-N-nitrosoguanidine	70-25-7				banned
	N-Nitrosodiphenylamine	86-30-6				banned
	N-Nitrosodiethanolamine	1116-54-7				banned
Agricultural pesticides						
	2,4,5-T	93-76-5	tbd	tbd	tbd	banned
	2,4-D	94-75-7	tbd	tbd	tbd	banned
	Acetamidrid	135410-20-7, 160430-64-8	tbd	tbd	tbd	banned
	Aldicarb	116-06-3	tbd	tbd	tbd	banned
	Aldrine	309-00-2	tbd	tbd	tbd	banned
	Azinophosethyl	2642-71-9	tbd	tbd	tbd	banned
	Azinophosmethyl	86-50-0	tbd	tbd	tbd	banned
	Bromophos-ethyl	4824-78-6	tbd	tbd	tbd	banned
	Captafol	2425-06-1	tbd	tbd	tbd	banned

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
	Carbaryl	63-25-2	tbd	tbd	tbd	banned
	Chlordane	57-74-9	tbd	tbd	tbd	banned
	Chlordimeform	6164-98-3	tbd	tbd	tbd	banned
	Chlorfenvinphos	470-90-6	tbd	tbd	tbd	banned
	Clothianidin	210880-92-5	tbd	tbd	tbd	banned
	Coumaphos	56-72-4	tbd	tbd	tbd	banned
	Cyfluthrin	68359-37-5	tbd	tbd	tbd	banned
	Cyhalothrin	91465-08-6	tbd	tbd	tbd	banned
	Cypermethrin	52315-07-8	tbd	tbd	tbd	banned
	DEF	78-48-8	tbd	tbd	tbd	banned
	Deltamethrin	52918-63-5	tbd	tbd	tbd	banned
	DDD	53-19-0, 72-54-8	tbd	tbd	tbd	banned
	DDE	3424-82-6, 72-55-9	tbd	tbd	tbd	banned
	DDT	50-29-3, 789-02-6	tbd	tbd	tbd	banned
	Diazinon	333-41-5	tbd	tbd	tbd	banned
	Dichlorprop	120-36-5	tbd	tbd	tbd	banned
	Dicrotophos	141-66-2	tbd	tbd	tbd	banned
	Dieldrine	60-57-1	tbd	tbd	tbd	banned
	Dimethoate	60-51-5	tbd	tbd	tbd	banned
	Dinoseb, its salts and acetate	88-85-7 et al	tbd	tbd	tbd	banned
	Dinotefuran	165252-70-0	tbd	tbd	tbd	banned
	Endosulfan, α-	959-98-8	tbd	tbd	tbd	banned
	Endosulfan, β-	33213-65-9	tbd	tbd	tbd	banned
	Endrine	72-20-8	tbd	tbd	tbd	banned
	Esfenvalerate	66230-04-4	tbd	tbd	tbd	banned
	Fenvalerate	51630-58-1	tbd	tbd	tbd	banned
	Heptachlor	76-44-8	tbd	tbd	tbd	banned
	Heptachloroepoxide	1024-57-3	tbd	tbd	tbd	banned
	Hexachlorobenzene	118-74-1	tbd	tbd	tbd	banned
	Hexachlorocyclohexane, α-	319-84-6	tbd	tbd	tbd	banned
	Hexachlorocyclohexane, β-	319-85-7	tbd	tbd	tbd	banned
	Hexachlorocyclohexane, δ-	319-86-8	tbd	tbd	tbd	banned
	Imidacloprid	105827-78-9, 138261-41-3	tbd	tbd	tbd	banned
	Isodrine	465-73-6	tbd	tbd	tbd	banned
	Kelevane	4234-79-1	tbd	tbd	tbd	banned
	Kepone	143-50-0	tbd	tbd	tbd	banned
	Lindane	58-89-9	tbd	tbd	tbd	banned
	Malathion	121-75-5	tbd	tbd	tbd	banned
	MCPA	94-74-6	tbd	tbd	tbd	banned
	MCPB	94-81-5	tbd	tbd	tbd	banned
	Mecoprop	93-65-2	tbd	tbd	tbd	banned
	Metamidophos	10265-92-6	tbd	tbd	tbd	banned
	Methoxychlor	72-43-5	tbd	tbd	tbd	banned
	Mirex	2385-85-5	tbd	tbd	tbd	banned
	Monocrotophos	6923-22-4	tbd	tbd	tbd	banned
	Nitenpyram	150824-47-8, 120738-89-8	tbd	tbd	tbd	banned
	Parathion	56-38-2	tbd	tbd	tbd	banned
	Parathion-methyl	298-00-0	tbd	tbd	tbd	banned
	Perthane	72-56-0	tbd	tbd	tbd	banned
	Phosdrin/Mevinphos	7786-34-7	tbd	tbd	tbd	banned
	Propethamphos	31218-83-4	tbd	tbd	tbd	banned
	Profenophos	41198-08-7	tbd	tbd	tbd	banned
	Strobane	8001-50-1	tbd	tbd	tbd	banned
	Quinalphos	13593-03-8	tbd	tbd	tbd	banned
	Telodrine	297-78-9	tbd	tbd	tbd	banned

Substance group	Substance name	CAS No.	Method: Input: Chemical Formulation	Method: Output: Waste Water	Method: Output: Sludge	Status: banned ****
	Thiacloprid	111988-49-9	tbd	tbd	tbd	banned
	Thiamethoxam	153719-23-4	tbd	tbd	tbd	banned
	Toxaphene	8001-35-2	tbd	tbd	tbd	banned
	Trifluralin	1582-09-8	tbd	tbd	tbd	banned

**** Definition

banned Banned substances shall not be used intentionally in the production of Tchibo articles.

grey marked substances = substances that go **beyond** the ZDHC MRSL/German Partnership for sustainable textiles MRSL. These are additional substances that are either regulated by law or by the Tchibo requirements.

tbd: to be determined