

# PRODUCT RESTRICTED SUBSTANCES LIST

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Miroglio Fashion s.r.l.

Email : [sustainability@miroglio.com](mailto:sustainability@miroglio.com)

Web : [www.mirogliogroup.com](http://www.mirogliogroup.com)

**MIROGLIO FASHION s.r.l. (ITALY) - "PRODUCTS RESTRICTED SUBSTANCES LIST "PRSL"**

**CHEMICALS - SAFETY REQUIREMENTS**

Articles produced for "MIROGLIO FASHION s.r.l." must meet all European legal restrictions regarding forbidden chemical substances, in accordance with EC Regulation no. 1907/2006 (REACH) and all its amendments in force at the time of delivery of the items (<http://echa.europa.eu/it/home>); moreover must meet the additional "MIROGLIO FASHION s.r.l." requirements.

**TEXTILES**

PARAMETER	Notes	LIMIT VALUE (Adult)	TEST METHOD	Detection Limit
Formaldehyde (free and extractable)		≤ 75 mg/kg	EN ISO 14184-1 - GB/T 2912.1	16 mg/kg
pH Value of aqueous extract		pH 4,0 ÷ 8,5	EN ISO 3071 - GB/T 7573	=
Azo Dyes from which arylamines can be split off under reductive conditions	(*)(**)	Detox: since 2014/09 Not detectable (≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 20 ppm	UNI EN 14362-1,3 GB/T 17592.1 GB/T 23344	1 mg/kg
Dye: - "Navy Blu"	(**)	Detox: since 2014/09 Not detectable (≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 20 ppm	EPA 3510C:1996 + EPA 8321B:2007 (rif. DIN 54231-2005)	1 mg/kg
Carcinogenic Dyes	(*)(**)	Detox: since 2014/09 Not detectable(≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 20 ppm	ISO/DIS 16373-3	1 mg/kg
Allergenic Disperse Dyes	(*)(**)	Detox: since 2014/09 Not detectable(≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 20 ppm	DIN 54231	1 mg/kg

PARAMETER	Notes	LIMIT VALUE (Adult)	TEST METHOD	Detection Limit
Lead (total amount)	(**)	Detox: since 2020 ≤ 100 mg/kg	CPSC-CH-E-1001-08.03	1 mg/kg
Cadmium (total amount)	(**)	Detox: since 2020 ≤ 100 mg/kg	EN1122	1 mg/kg
Arsenic (total amount) (Only wooden components)	(**)	Detox: since 2020 ≤ 1 mg/kg	Acid Digestion (Microwave) – ICP-MS – Ref. EN ISO 17294-2	1 mg/kg
Chlorophenols: Pentachlorophenol (PCP) Tetrachlorophenols (TeCP) Trichlorophenols (TriCP)	(*)(**)	Detox: since 2014/09 Not detectable (≤ 0,05 mg/kg)	UNI 11057 US EPA 8081 A	0,05 mg/kg
Ortho-phenilphenol (OPP)		≤ 100 mg/kg	Extraction with organic solvent - GC-MS	1 mg/kg
Biocides	(*)	≤ 1,0 mg/kg (sum) (PCP; TeCP excluded)	US EPA 8081 Chromatographic Test Methods	0,05 mg/kg
Chlorinated Organic Carriers (Chlorobenzene-Chlorotoluene)	(*)(**)	Detox: since 2014/09 ≤ 0,5 mg/kg (sum)	DIN 54232	0,05 mg/kg
Nonylphenols (NP) Octylphenols (OP)	(*)(**)	Detox: since 2015/07 ≤ 1 mg/kg (sum) Recycled Content Maximum contamination limit (sum)= 100 ppm	Refer to ISO 18857-1	0,1 mg/kg
Nonylphenoethoxylates (NPEO) Octylphenoethoxylates (OPEO)	(*)(**)	Detox: since 2015/07 ≤ 1 mg/kg (sum) Recycled Content Maximum contamination limit (sum)= 250 ppm	ISO/DIS 18254	0,1 mg/kg

PARAMETER	Notes	LIMIT VALUE (Adult)	TEST METHOD	Detection Limit
Perfluorinated Compounds (PFC)	(*) (**)	Detox: since 2016/07 $\leq 1$ microg/m <sup>2</sup> (total - FTOH) $\leq 0,1$ microg/m <sup>2</sup> (total – altri PFC)	CEN/TS 15968	0,1 µg/m <sup>2</sup> (FTOH) 0,01 µg/m <sup>2</sup> (altri PFC)
Organotin compounds:	(**)	Detox: since 2014/09 $\leq 0,1$ mg/kg (sum)	ISO / TS 16179	0,05 mg/kg
Brominated and Chlorinated Flame Retardants	(*) (**)	Detox: since 2014/09 $\leq 1$ mg/kg (sum)	Extraction with organic solvent - Analysis by: GC-MS; GC-ECD; LC-MS	0,1 mg/kg
Short chained chloroparaffines: (SCCPs : C <sub>10</sub> -C <sub>13</sub> )	(**)	Detox: since 2014/09 $\leq 1$ mg/kg	ISO/DIS 18219 - Extraction with organic solvent - Analysis by GC-MS/MS; GC-ECNI-MS	0,1 mg/kg
Polycyclic Aromatic Hydrocarbons (IPA – PAH) (Applied to synthetic fibers only)	(*)	Benzo [α] pirene $\leq 1,0$ mg/kg (sum): $\leq 10,0$ mg/kg	ZEK 01.4-08	0,05 mg/kg
Dimethylfumarate		$\leq 0,1$ mg/kg	ISO/TS 16186	0,01 mg/kg
Chlorinated solvents (Perchloroethylene excluded)	(*)(**)	Detox: since 2014/09 $\leq 1$ mg/kg	Extraction HS- SPME or Purge &Trap – GCMS”	0,1 mg/kg
Perchloroethylene		Detox: since 2020/12 $\leq 1$ mg/kg	Extraction HS- SPME or Purge &Trap – GCMS”	0,1 mg/kg
Other Solvents (VOCs)	(*)(**)	Detox: since 2020/12 Not detectable	Extraction with organic solvent (ethylacetate ) - Analysis by: GC-MS/MS	See Appendix

<b>PARAMETER</b> <b>Heavy Metals (Extractables)</b>	<b>Notes</b>	<b>LIMIT VALUE (Adult) (mg/kg)</b> (Detox: since 2020)	<b>TEST METHOD</b>	<b>Detection Limit</b>
Antimony		≤ 30,0	Extractable Content: extraction with acid perspiration, refer to: EN ISO 105-E04 – ICP-MS/OES Cr(VI): referred to EN ISO 17075 DIN (draft) 54233-3  Leather: EN ISO 17072-1  (**)Only for natural fibers	3,00
Arsenic		≤ 1,0 (**)		0,02
Lead		≤ 1,0		0,02
Cadmium		≤ 0,1		0,01
Chromium (total)		≤ 2,0		0,10
Chromium VI		≤ 3,0		3,00
Cobalt		≤ 4,0		0,10
Copper		≤ 50,0		2,50
Nickel		≤ 4,0		0,10
Mercury		≤ 0,02 (**)		0,01

### Coated Fabric – Additional Requirements

<b>PARAMETER (refers to the coating material)</b>	<b>Notes</b>	<b>LIMIT VALUE (Adult)</b>	<b>TEST METHOD</b>	<b>Detection Limit</b>
Phthalates	(*)(**)	Detox: since 2014/09 ≤ 10 mg/kg (sum)	CPSC-CH-C1001-09.3	See Appendix
Lead – (total amount)		≤ 90 mg/kg	CPSC-CH-E-1003-09.1	1 mg/kg
Cadmium – (total amount)		≤ 100 mg/kg	EN 1122 - Ref: CPSC-CH-E-1003-09.1	1 mg/kg

**Coated Fabric – Additional Requirements for PVC**

<b>PARAMETER (refers to the coating material)</b>	<b>Notes</b>	<b>LIMIT VALUE (Adult)</b>	<b>TEST METHOD</b>	<b>Detection Limit</b>
Vinyl Chloride (monomer)		≤ 5 mg/kg	GB/T 4615 – ISO 6401	5 mg/kg
Lead – (Chloridric acid extractable)		≤ 90 mg/kg	GB 21550	0,2 mg/kg
Cadmium – (Chloridric acid extractable)		≤ 75 mg/kg	GB 21550	0,1 mg/kg
Volatile Substances		≤ 20 mg/kg	GB 21550	1 mg/kg

**LEATHER and FURS**

PARAMETER	Notes	LIMIT VALUE (Adult)	TEST METHOD	Detection Limit
Formaldehyde (free and extractable)		≤ 75 mg/kg	EN ISO 17226-1 – GB 20400: GB/T 19941	16 mg/kg
pH Value of aqueous extract		pH 4,0 ÷ 8,5	EN ISO 4045	=
Chromium VI		≤ 3 mg/kg	EN ISO 17075	3 mg/kg
Azo Dyes from which arylamines can be split off under reductive conditions	(*)(**)	Detox: since 2014/09 Not detectable (≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 30 ppm	EN ISO 17234-1,2 – GB 20400: GB/T 19942	1 mg/kg
Dye: – “Navy Blu”	(**)	Detox: since 2014/09 Not detectable (≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 30 ppm	EPA 3510C:1996 + EPA 8321B:2007 (rif. DIN 54231-2005)	1 mg/kg
Carcinogenic Dyes	(*)(**)	Detox: since 2014/09 Not detectable (≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 30 ppm	ISO/DIS 16373-3	1 mg/kg
Allergenic Disperse Dyes	(*)(**)	Detox: since 2014/09 (≤ 1 mg/kg) Recycled Content Maximum contamination limit (sum)= 30 ppm	DIN 54231	1 mg/kg

PARAMETER	Notes	LIMIT VALUE (Adult)	TEST METHOD	Detection Limit
Lead (total amount)	(**)	Detox: since 2020 ≤ 100 mg/kg ≤ 90 mg/kg (Patent leather)	EN ISO 17072-2	1 mg/kg
Cadmium (total amount)	(**)	Detox: since 2020 ≤ 100 mg/kg	EN ISO 17072-2	1 mg/kg
Chlorophenols: Pentachlorophenol (PCP) Tetrachlorofphenols (TeCP) Trichlorofphenols (TriCP)	(*)(**)	Detox: since 2014/09 Not detectable (≤ 0,05 mg/kg)	EN ISO 17070	0,05 mg/kg
Ortho-phenilphenol (OPP)		≤ 500 mg/kg	ISO/DIS 13365	1 mg/kg
Biocides	(*)	≤ 1,0 mg/kg (sum) (PCP; TeCP, TriCP excluded)	US EPA 8081 Chromatographic Test Methods	0,05 mg/kg
Chlorinated Organic Carriers (Chlorobenzene-Chlorotoluene)	(*)(**)	Detox: since 2014/09 ≤ 0,5 mg/kg (sum)	DIN 54232	0,05 mg/kg
Nonylphenols (NP) Octylphenols (OP)	(*)(**)	Detox: since 2015/07 ≤ 1 mg/kg (sum) Recycled Content Maximum contamination limit (sum)= 100 ppm	Extraction with organic solvent - Analysis by GC-MS. refer to ISO 18857-1	0,1 mg/kg
Nonylphenoethoxylates (NPEO) Octylphenoethoxylates (OPEO)	(*)(**)	Detox: since 2015/07 ≤ 1 mg/kg (sum) Recycled Content Maximum contamination limit (sum)= 250 ppm	Extraction with organic solvent - Analysis by LC-MS. ISO DIS 18218-1	0,1 mg/kg
Phthalates	(*)(**)	Detox: since 2014/09 ≤ 10 mg/kg (sum)	CPSC-CH-C1001-09.3	See Appendix











































Phthalates		Short form	(Detox Commitment: [*])	CAS Nr	Detection Limit (mg/kg)
1	Diisobutyl phthalate	DIBP	[*]	84-69-5	1 mg/kg
2	Dibutyl phthalate	DBP	[*]	84-74-2	1 mg/kg
3	BenzylButyl phthalate	BBP	[*]	85-68-7	1 mg/kg
4	Di(ethylhexil) phthalate	DEHP	[*]	117-81-7	1 mg/kg
5	Di(n-octyl) phthalate	DNOP	[*]	117-84-0	5 mg/kg
6	Diisononyl phthalate	DINP	[*]	28553-12-0	1 mg/kg
7	Diisodecyl phthalate	DIDP		26761-40-0	5 mg/kg
8	1,2-benzendicarboxylic acid, di C6-8 branched alkyl esters C7 rich	DIHP	[*]	71888-89-6	5 mg/kg
9	1,2-benzendicarboxylic acid, di C7-11 branched and linear alkyl esters C7 rich	DHNUP	[*]	68515-42-4	5 mg/kg
10	Dipentyl phthalate	DPP	[*]	131-18-0	1 mg/kg
11	Di-n-hexyl phthalate	DHP		84-75-3	1 mg/kg
12	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear			84777-06-0	5 mg/kg
13	Di-iso-pentyl phthalate	DIPP		605-50-5	1 mg/kg
14	N-pentyl-iso-pentyl phthalate	PIPP - NPIPP		776297-69-9	5 mg/kg
15	Bis(2-methoxyethyl) phthalate	DMEP	[*]	117-82-8	1 mg/kg
16	Di-n-hexyl phthalate	DnHP	[*]	84-75-3	5 mg/kg
17	Dinonyl phthalate	DNP		84-76-4	5 mg/kg
18	Diethyl phthalate	DEP		84-66-2	1 mg/kg
19	Di-n-propyl phthalate	DPRP		131-16-8	5 mg/kg
20	Di-cyclohexyl phthalate	DCHP		84-61-7	5 mg/kg
21	Di-iso-octyl phthalate	DIOP		27554-26-3	5 mg/kg
22	Dimethyl phthalate	DMP		131-11-3	5 mg/kg

MIROGLIO FASHION s.r.l.  
 Via Santa Barbara, 11  
 12051 ALBA (CN) - ITALY  
 www.mirogliofashion.com

<b>N-nitrosamines - (Detox Commitment)</b>	<b>Short form</b>	<b>(Detox Commitment: [*])</b>	<b>CAS Nr</b>
N-nitrosodimethylamine	(NDMA)	[*]	62-75-9
N-nitrosodiethylamine	(NDEA)	[*]	55-18-5
N-nitrosodipropylamine	(NDPA)	[*]	621-64-7
N-nitrosodibutylamine	(NDBA)	[*]	924-16-3
N-nitrosopiperidine	(NPIP)	[*]	100-75-4
N-nitrosopyrrolidine	(NPYR)	[*]	930-55-2
N-nitrosomorpholine	(NMOR)	[*]	59-89-2
N-nitroso-N-methylaniline	(NMPPhA)	[*]	614-00-6
N-nitroso-N-ethylaniline	(NEPhA)	[*]	612-64-6