

Test Report

We hereby confirm that the textiles dyed under 1/1 standard depth with the products in the list below ("Products") comply with the requirements of the Restricted Substance List as provided in the following pages.

KISCO products of concern:

Product Name	Class I Products for babies	Class II~IV Products with indirect/direct skin contact and decorative materials	remark
PAPIJET BLACK LTI 403	Y*(K8)	Y*(K8)	
PAPIJET CYAN LTI 403	Y	Y	
PAPIJET MAGENTA LTI 403	Y	Y	
PAPIJET YELLOW LTI 403	Y	Y	
PAPIJET BLACK LTI 413	Y*(K8)	Y*(K8)	
PAPIJET BLACK LTIK 402	Y	Y	
PAPIJET CYAN LTIK 402	Y	Y	
PAPIJET MAGENTA LTIK 402	Y	Y	
PAPIJET YELLOW LTIK 402	Y	Y	

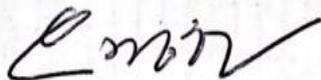
Y: Suitable

N: Not recommended

*(K8): Suitable but may be detected as trace impurities levels within the permissible limits of the chlorinated phenols.

The validity of this certificate shall be 1 year from the issuing date and should be renewed annually.

KISCO (Kyung-In Synthetic Corporation)



Kris Oh
Director

Restricted Substance List - STANDARD 100 by OEKO-TEX®*

STANDARD 100 by OEKO-TEX® is one of the world's best-known labels for textiles tested for harmful substances. It certifies standards for textile items. The requirements of this standard are listed in the table below.

KISCO provides the requirements of STANDARD 100 by OEKO-TEX® for informational purposes only and, for the avoidance of doubt, has not been certified for and cannot directly certify textile products against this standard. However, textiles processed with the Products generally qualify for certification to STANDARD 100 by OEKO-TEX®, provided that the Products are processed adhering to KISCO's recommendations.

The users are solely responsible for conducting the tests on their own and having the necessary process controls in place to ensure that their finished products meet the requirements of the STANDARD 100 by OEKO-TEX®.

Annex 6. Limit values of STANDARD 100 by OEKO-TEX® (Edition 01.2023)

Substance name	Requirements (mg/kg)			
	Class I. Products for babies	Class II. Products with direct skin contact	Class III Products with Indirect skin contact	Class IV Decorative materials
pH ¹	4.0 - 7.5	4.0 - 7.5	4.0 - 9.0	4.0 - 9.0
Formaldehyde, free and partially releasable [mg/kg]	n.d. ²	75	150	300
Extractable heavy metals [mg/kg]				
Sb (Antimony)	30.0	30.0	30.0	30.0
As (Arsenic)	0.2	0.2	0.2	0.20
Pb (Lead)	0.2	0.2 ³	0.2 ³	0.2 ³
Cd (Cadmium)	0.1	0.1	0.1	0.1
Cr (Chromium)	1.0	1.0	1.0	1.0
Cr (VI)	0.5			
Co (Cobalt)	1.0	1.0	1.0	1.0
Cu (Copper)	25.0 ⁴	50.0 ⁴	50.0 ⁴	50.0 ⁴
Ni (Nickel) ⁵	1.0 ⁶	1.0 ⁷	1.0 ⁷	1.0 ⁷
Hg (Mercury)	0.02	0.02	0.02	0.02
Ba (Barium)	1000	1000	1000	1000
Se (Selenium)	100	100	100	100
Zn (Zinc)	750	750	750	750
Mn (Manganese)	90.0	90.0	90.0	90.0
Heavy metals total content [mg/kg]				
As (Arsenic)	100	100	100	100
Cd (Cadmium)	40.0	40.0 ³	40.0 ³	40.0 ³
Hg (Mercury)	0.5	0.5	0.5	0.5
Pb (Lead) at metallic material	90.0	90.0 ³	90.0 ³	90.0 ³
Pb (Lead) at plastic, coating etc.	75.0	75.0 ³	75.0 ³	75.0 ³
Pesticides ^{8,9} [mg/kg]				
Sum ⁹	0.5	1.0	1.0	1.0
Glyphosate and salts for conventional cotton	5	5	5	5
Pesticides under observation	u.o. ¹⁰			
Chlorinated phenols ⁹ [mg/kg]				
Pentachlorophenol (PCP)	0.05	0.25	0.25	0.25
Tetrachlorophenols (TeCP), Sum	0.05	0.25	0.25	0.25
Trichlorophenols (TrCP), Sum	0.2	1.00	1.00	1.00

Dichlorophenols (DCP) , Sum	0.50	1.00	1.00	1.00
Monochlorophenols (MCP) , Sum	0.50	1.00	1.00	1.00
Plasticize/Phthalates ¹¹ [w-%]				
Each phthalate ⁹	0.010	0.010	0.010	0.010
Sum of all ⁹	0.025	0.025	0.025	0.025
Organic tin compounds ⁹ [mg/kg]				
TBT, TPhT	0.5	0.5	0.5	0.5
DBT, DMT, DOT, DPhT, DPT, MBT, MOT, MMT, MPhT, TeBT, TeET, TCyHT, TMT, TOT, TeOT, TPT	0.5	0.5	0.5	0.5
Other chemical residues				
6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol [mg/kg]	1000	1000	1000	1000
Carcinogenic Arylamines ^{9,12,13} [mg/kg]	20	20	20	20
N-(hydroxymethyl)acrylamide [mg/kg]	1000	1000	1000	1000
Tris(2-methoxyethoxy)vinylsilane [mg/kg]	1000	1000	1000	1000
2-Mercaptobenzothiazol [mg/kg]	1000	1000	1000	1000
Arylamines under observation ⁹	u.o. ¹⁰			
Aniline ^{9,14} [mg/kg]	20	20	20	20
Benzene ⁹ [mg/kg]	1.0	1.0	1.0	1.0
Bisphenol A ⁹ [mg/kg]	100	100	100	100
Bisphenol B ⁹ [mg/kg]	1000	1000	1000	1000
Diazene-1,2-dicarboxamide ⁹ [w%]	0.1	0.1	0.1	0.1
DMFu ⁹ [mg/kg]	0.1			
OPP ⁹ [mg/kg]	10	10	10	10
Phenol ⁹ [mg/kg]	20	50	50	50
Quinoline ⁹ [mg/kg]	50	50	50	50
Glutaraldehyde ⁹ [mg/kg]	1000	1000	1000	1000
TCEP ⁹ [mg/kg]	10	10	10	10
Chemical residues under observation ⁹	u.o. ¹⁰			
Colourants [mg/kg]				
Cleavable carcinogenic arylamines ^{9,13}	20			
Cleavable arylamines under observation ^{9,13}	u.o. ¹⁰			
Cleavable Aniline ^{9,14}	20			
Carcinogens ⁹	20			
Colourants with ≥0.1% Michler's Ketone/Base	1000			
Allergens ⁹	20			
Others ⁹	20			
Navy blue ⁹	not used			
Colourants under observation	u.o. ¹⁰			
Chlorinated benzenes and toluenes ⁹ [mg/kg]				
Sum	1.0	1.0	1.0	1.0
Polycyclic aromatic hydrocarbons (PAHs) ¹⁵ [mg/kg]				
Benzo[a]pyrene	0.5	1.0	1.0	1.0
Benzo[e]pyrene	0.5	1.0	1.0	1.0
Benzo[a]anthracene	0.5	1.0	1.0	1.0
Chrysene	0.5	1.0	1.0	1.0
Benzo[b]fluoranthene	0.5	1.0	1.0	1.0
Benzo[j]fluoranthene	0.5	1.0	1.0	1.0
Benzo[k]fluoranthene	0.5	1.0	1.0	1.0
Dibenzo[a,h]anthracene	0.5	1.0	1.0	1.0
Naphthalene	2.0	2.0	2.0	2.0
Sum 24 PAHs ⁹	5.0	10.0	10.0	10.0
Biological active products				
	none ¹⁶			
Flame retardant products				
General	none (10mg/kg; each; for sum SCCP + MCCP 50mg/kg) ^{16,17} Sum of all 50mg/kg			
Solvent residues ^{9,18} [w-%]				
NMP ¹⁹	0.05 / 0.10 ²⁰			
DMAc ¹⁹	0.05 / 0.10 ²⁰			
DMF ¹⁹	0.05 / 0.10 ²⁰			
Formamide	0.02	0.02	0.02	0.02
Surfactant, wetting agent residues, alkyl phenols ⁹ [mg/kg]				

BP, BP, OP, HpP, PeP;/ Sum	5.0	5.0	5.0	5.0
BP, BP, OP, HpP, PeP; NP(E0), OP(E0);/ Sum	50.0	50.0	50.0	50.0
PFCs, Per- and polyfluorinated compounds ^{9,21}				
Total organic fluorine content, Sum [mg/kg]	10	10	10	10
PFOA and salts Sum / PFHpA, PFNA, PFDA,PFUdA, PFDaA, PFTrDA, PFTeDA and Further perfluorinated carboxylic acids each and sum; according to Annex 5 [ug/kg]	25	25	25	25
Perfluorinated sulfuric acids, each; according to Annex 7 [ug/kg]	250	250	250	250
Partially fluorinated carboxylic / sulfonic acids, each; according to Annex 7 [ug/kg]	250	250	250	250
Partially fluorinated carboxylic / sulfonic acids, under observation	u.o. ¹⁰			
Partially fluorinated linear alcohols, each; according to Annex 7 [ug/kg]	250	250	250	250
Esters of fluorinated alcohols with acrylic acid, each; according to Annex 7 [ug/kg]	250	250	250	250
Sum of partly fluorinated compounds [ug/kg]	250	250	250	250
PFOA related Substances Sum ²² [mg/kg]	1.0	1.0	1.0	1.0
UV stabilizers ⁹ [w-%]				
UV 320	0.1	0.1	0.1	0.1
UV 327	0.1	0.1	0.1	0.1
UV 328	0.1	0.1	0.1	0.1
UV 350	0.1	0.1	0.1	0.1
Chlorinated paraffins ⁹				
Sum of SCCP and MCCP [mg/kg]	50	50	50	50
Siloxanes ⁹ [w-%]				
Octamethylcyclotetrasiloxane (D4)	0.1	0.1	0.1	0.1
Decamethylcyclopentasiloxane (D5)	0.1	0.1	0.1	0.1
Dodecamethylcyclohexasiloxane (D6)	0.1	0.1	0.1	0.1
N-Nitrosamines ⁹ [mg/kg]	0.5	0.5	0.5	0.5
N-nitrosatable substances; Sum [mg/kg]	5	5	5	5
Chlorinated solvents				
Dichloromethane	1.0	1.0	1.0	1.0
Trichloromethane	1.0	1.0	1.0	1.0
Tetrachloromethane	1.0	1.0	1.0	1.0
1,1-Dichloroethane	1.0	1.0	1.0	1.0
1,2-Dichloroethane	1.0	1.0	1.0	1.0
1,1,1-Trichloroethane	1.0	1.0	1.0	1.0
1,1,2-Trichloroethane	1.0	1.0	1.0	1.0
1,1,1,2-Tetrachloroethane	1.0	1.0	1.0	1.0
1,1,2,2-Trichloroethane	1.0	1.0	1.0	1.0
Pentachloroethane	1.0	1.0	1.0	1.0
1,1-Dichloroethylene	1.0	1.0	1.0	1.0
1,2-Dichloroethylene	1.0	1.0	1.0	1.0
Trichloroethylene	1.0	1.0	1.0	1.0
Tetra(per)chloroethylene	1.0	1.0	1.0	1.0
Sum of the 14 chlorinated solvents	5.0	5.0	5.0	5.0
Other VOCs and glycols ^{9,23} [mg/kg]				
Acetophenone	10.0	10.0	10.0	10.0
Benzene	1.0	1.0	1.0	1.0
Bis(2-methoxyethyl)ether	10.0	10.0	10.0	10.0
Cyclohexanone	10.0	10.0	10.0	10.0
1,2-Diethoxyethane	10.0	10.0	10.0	10.0
2-Ethoxyethanol	10.0	10.0	10.0	10.0
2-Ethoxyethylacetate	10.0	10.0	10.0	10.0
Ethylbenzene	10.0	10.0	10.0	10.0
Ethylene glycol dimethyl ether	10.0	10.0	10.0	10.0
2-Methoxy-1-propanol	10.0	10.0	10.0	10.0
2-Methoxyethanol	10.0	10.0	10.0	10.0

2-Methoxyethylacetate	10.0	10.0	10.0	10.0
2-Methoxypropylacetate	10.0	10.0	10.0	10.0
1-Methyl-2-pyrrolidone (NMP)	refer to solvent residues			
Methylethylketone	10.0	10.0	10.0	10.0
Naphthalene	refer to corresponding entry at PAHs			
N,N-Dimethylacetamide (DMAc)	refer to solvent residues			
N,N-Dimethylformamide (DMF)	refer to solvent residues			
2-Phenyl-2-propanole	10.0	10.0	10.0	10.0
Styrene	10.0	10.0	10.0	10.0
Toluene	10.0	10.0	10.0	10.0
1,2,3-Trichloropropane	10.0	10.0	10.0	10.0
Triethylene glycol dimethyl ether	10.0	10.0	10.0	10.0
VOCs and glycols under observation	u.o. ¹⁰			
Xylene	10.0	10.0	10.0	10.0
Cresols ⁹ [mg/kg]				
o-Cresol	10.0	10.0	10.0	10.0
m-Cresol	10.0	10.0	10.0	10.0
p-Cresol	10.0	10.0	10.0	10.0
Emission of volatiles ²⁵ [mg/m ³]				
Formaldehyde [50-00-0]	0.1	0.1	0.1	0.1
Toluene [108-88-3]	0.1	0.1	0.1	0.1
Styrene [100-42-5]	0.005	0.005	0.005	0.005
4-Vinylcyclohexene [100-40-3]	0.002	0.002	0.002	0.002
4-Phenylcyclohexene [4994-16-5]	0.03	0.03	0.03	0.03
Butadiene [106-99-0]	0.002	0.002	0.002	0.002
Vinylchloride [75-01-4]	0.002	0.002	0.002	0.002
Aromatic hydrocarbons	0.3	0.3	0.3	0.3
Organic volatiles	0.5	0.5	0.5	0.5

N.D. Not Detectable

¹ Exceptions for products which must be treated wet during the further processing: 4.0 – 10.5; for foams: 4.0 – 9.0; for film materials (e.g. polyolefin films) with incorporated Calcium bicarbonate/carbonate or talc, which do not have directly contact to skin: 4.0 – 10.0

² N.D corresponds according to Japanese law 112 test method with an absorbance unit less than 0.05 resp. 16mg/kg

³ For accessories made from glass: 0.1% (1000mg/kg)

⁴ No requirement for accessories and yarns made from inorganic materials, respecting the requirements biological active products

⁵ Including the requirement by REACH-Regulation Annex XVII, Entry 27

⁶ For metallic accessories and metallized surfaces: 0.5mg/kg

⁷ For metallic accessories and metallized surfaces: 1.0mg/kg

⁸ For natural fibres only

⁹ The individual substances are listed in Annex 5 of STANDARD 100 by OEKO-TEX® document.

¹⁰ u.o. under observation; substance is tested randomly and result provided for information purposes; presently not regulated indeed

¹¹ For coated articles, plastisol prints, flexible foams, and accessories made from plastics

¹² For all materials containing polyurethane or other materials which may contain free carcinogenic arylamines

¹³ The sum of cleavable carcinogenic arylamine and of possibly also as chemical residue present free carcinogenic (same) arylamine has to be also 20mg/kg

¹⁴ The sum of cleavable aniline and of possibly also as chemical residue present free aniline has to be also 20mg/kg (product class I) resp. 50mg/kg (product classes II till IV)

¹⁵ For all synthetic fibres, yarns, or threads and for plastic materials

¹⁶ With exception of treatments accepted by OEKO-TEX® (see actual list on <http://www.oeko-tex.com>)

¹⁷ Accepted flame retardant products do not contain any of the banned flame retardant substances listed in Annex 5 of STANDARD 100 by OEKO-TEX® document as active agent

¹⁸ For fibre, yarns, fabrics and coated article (e.g. artificial leather) as well as foam (EVA, PV), where solvents are used during production

¹⁹ Exception for products which must undergo further industrial production states (heat process in wet or dry stage preferred, but also other steps are possible): maximal 3.0%

²⁰ For materials made of acrylic (PAN), elastane (EL) / polyurethane, polyimide and aramides as well as coated (PU-, PVC-, PVC-plastisol-, PVDC-, PVC-copolymer) textiles.

²¹ For all materials with a water, soil or oil repellent finish or coating

²² Any other substances, which can degrade to PFOA, including substances (also salts and polymers) having linear or branched perfluoroheptyl derivatives with the formula (C₇F₁₅)C as a structural element. Except those derivatives with the formula C₈F₁₇-X, where X=F, Cl, Br, and fluoropolymers that are covered by CF₃[CF₂]_n-R', where R'=any group, n>16, and perfluoroalkyl carboxylic acids (including their salts, esters, halides and anhydrides) with ≥9 perfluorinated carbons or, perfluorooctanesulfonic acid and its derivatives (PFOS), which are listed in Appendix I Part A of the regulation V0 (EU) 2019/1021.

²⁵ For textile carpets, mattresses as well as foams and large coated articles not being used for clothing

* STANDARD 100 by OEKO-TEX® is a registered trademark of the International Association for Research and Testing in the Field of Textile and Leather Ecology. For more information, please visit their website at <https://www.oeko-tex.com/en/>.