



Test Report

Report No.: 3101-32 Annex1

Assignor: Akcine bendrove "UTENOS TRIKOTA□AS"

Oeko-Tex® certificate no. 22406-3101

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LeIn/Chf
Order no.: 877793

Subject:

A: sample #1 100% CO navy reactive dye + pigment print
B: sample #2 100% CO off white + pigment print
C: sample #4 WO/SE 70/30 dusty green reactive dye + pigm.print
D: sample #5 CO/EL 95/5 orange/red react.dye + digital reactive pr.
E: sample #7 Tencel/EL 94/6 dark pink reactive dye.
F: sample #9 CO/hemp emerald gr. reactive dye
G: sample #10 CO/MD/PP 38/38/24 navy reactive dye + YD PP
H: sample #11 PA/EL 90/10 lilac acid w.dye
I: sample #12 100% PES mint w. disperse dye
J: sample #16 MAC/CO/Beltron navy cationic + reactive dye
K: MIX A+B
L: MIX D + E
M: MIX F + G
N: Mix H + K

Sampling:

Samples were picked and send by customer.
The materials were received at the Danish Technological Institute 18.06.2019

Method:

The testing has been carried out according to Standard 100 by OEKO-TEX® and according to the methods described in OEKO-TEX® Testing procedures. Product class I, Appendix 6 was used.

Period:

The testing was completed 25.07.2019.

Result:

Individual results appear from page 2 to 11.

Storage:

The test material will be destroyed after 12 months, unless otherwise agreed.

Terms:

The test is only valid for the tested specimen. The test report may only be extracted, if the laboratory has approved the extract.

Date/place:

25.07.2019, Danish Technological Institute, Wood and Biomaterials, Textile, Taastrup

Signature:

Test responsible

Co-signatory

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Results: General sensory odour testing: Oeko-Tex® Testing procedures, Point 18.2 and Oeko-Tex® Standard 100, annex 4, part 4, note 24.

<u>Sample</u>	<u>Odour</u>
A	No abnormal odour
B	No abnormal odour
C	No abnormal odour
D	No abnormal odour
E	No abnormal odour
F	No abnormal odour
G	No abnormal odour
H	No abnormal odour
I	No abnormal odour
J	No abnormal odour
K	No abnormal odour
L	No abnormal odour
M	No abnormal odour
N	No abnormal odour

Requirements

Oeko-Tex® requirements in all product classes: No odour from mould, high boiling fraction of petrol, fish, aromatic hydrocarbons or perfume.

pH: Oeko-Tex® Standard 201, M-1 and ISO 3071:2006 (KCl solution)

<u>Sample</u>	<u>pH-value</u>
A	6,5
C	5,6
D	5,8
F	6,0
H	6,6
J	5,8

Requirements

Oeko-Tex® requirements in general in product class I: 4,0-7,5

Content of free formaldehyde: Oeko-Tex® Standard 201, M8 and Japanese Law no. 112:1973. (mg/kg textile)

<u>Sample</u>	<u>mg/kg free formaldehyde</u>
B (single test)	< 2
C (single test)	< 2
D (single test)	< 2
G (single test)	< 2
H (single test)	< 2
J (single test)	< 2

Requirements

Oeko-Tex® requirement in product class I: < 16 mg/kg

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Colour fastness to water: Oeko-Tex® Standard 201, M-9-C and ISO 105-E01:2013
(1-5 scale, 5 best rating)

<u>Sample</u>	<u>Fabric</u>	<u>Staining</u>	<u>Fabric</u>	<u>Staining</u>
A	Cotton	4-5	Wool	5
D	Cotton	4-5	Wool	4-5
E	Cotton	4	Wool	4-5
F	Cotton	4-5	Wool	5
I	Cotton	5	Wool	5

Requirements

Oeko-Tex® requirement in all product classes: Min. rating 3 in staining.

Fastness to perspiration: Oeko-Tex® Standard 201, M-9-B and ISO 105-E04:2013
(1-5 rating, 5 is best rating)

<u>Sample</u>	<u>Fabric</u>	<u>Staining</u>		<u>Fabric</u>	<u>Staining</u>	
		<u>Acidic</u>	<u>Alkaline</u>		<u>Acidic</u>	<u>Alkaline</u>
B	Cotton	5	5	Wool	5	5

Requirements

Oeko-Tex® requirements in all product classes: Min. rating 3-4 for staining.

Colour fastness to rubbing: Oeko-Tex® Standard 201, M-9-D and ISO 105-X12:2001

(1-5 scale, 5 best rating)
Load 9N

<u>Sample</u>	<u>Rubbing finger</u>	<u>Colour fastness to rubbing</u> <u>(dry)</u>
B	Cylindrical 16 mm	4-5
D	Cylindrical 16 mm	4-5
E	Cylindrical 16 mm	4-5
G	Cylindrical 16 mm	4-5
J	Cylindrical 16 mm	4-5

Requirements

Oeko-Tex® requirement in all product classes: Min. rating 4 staining.

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Colour fastness to saliva and perspiration: Oeko-Tex® Standard 201, M-9-A
(scale: fast – not fast)

<u>Sample</u>	<u>Colour fastness to saliva and perspiration</u>
A	Fast
C	Fast
D	Fast
E*	Not fast
F	Fast
G	Fast
H	Fast
I	Fast
J	Fast

Requirements

Oeko-Tex® requirement in product class I: Fast

Samples marked with * does not fulfil the requirement for fastness to saliva and perspiration.

Heavy metals, Oeko-Tex® Standard 201, M-10 and M-11
Acidic perspiration extractable content. (mg/kg textile)

	<u>Sample</u>	<u>Sample</u>	<u>Sample</u>	<u>Detection</u>	<u>Require-</u>
	<u>A</u>	<u>B</u>	<u>C</u>	<u>limit</u>	<u>ments max.</u>
Antimony (Sb)	0,03	< 0,02	< 0,02	0,02	30
Arsenic (As)	0,02	< 0,02	< 0,02	0,02	0,2
Lead (Pb)	< 0,02	< 0,02	< 0,02	0,02	0,2
Cadmium (Cd)	< 0,02	< 0,02	< 0,02	0,02	0,1
Chromium (Cr)	< 0,02	< 0,02	< 0,02	0,02	1
Cobalt (Co)	< 0,02	< 0,02	< 0,02	0,02	1
Copper (Cu)	0,51	0,47	0,88	0,4	25
Nickel (Ni)	< 0,10	< 0,10	< 0,10	0,1	1
Mercury (Hg)	< 0,01	< 0,01	< 0,01	0,01	0,02
Selenium (Se)	< 0,10	< 0,10	< 0,10	< 0,10	100
Zinc (Zn)	0,41	< 0,40	6,8	< 0,40	750
Manganese (Mn)	< 0,40	< 0,40	< 0,40	< 0,40	90
Barium (Ba)	< 0,40	< 0,40	< 0,40	< 0,40	1000

Requirements

Oeko-Tex® requirement in product class I is shown in the last column.

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Heavy metals, Oeko-Tex® Standard 201, M-10 and M-11
Acidic perspiration extractable content. (mg/kg textile)

	<u>Sample</u> <u>D</u>	<u>Sample</u> <u>E</u>	<u>Sample</u> <u>F</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments max.</u>
Antimony (Sb)	< 0,02	< 0,02	< 0,02	0,02	30
Arsenic (As)	< 0,02	< 0,02	< 0,02	0,02	0,2
Lead (Pb)	< 0,02	< 0,02	< 0,02	0,02	0,2
Cadmium (Cd)	< 0,02	< 0,02	< 0,02	0,02	0,1
Chromium (Cr)	< 0,02	< 0,02	< 0,02	0,02	1
Cobalt (Co)	0,03	< 0,02	< 0,02	0,02	1
Copper (Cu)	1,20	< 0,40	1,10	0,4	25
Nickel (Ni)	< 0,10	< 0,10	< 0,10	0,1	1
Mercury (Hg)	< 0,01	< 0,01	< 0,01	0,01	0,02
Selenium (Se)	1,6	< 0,10	< 0,10	0,1	100
Zinc (Zn)	< 0,40	< 0,40	< 0,40	0,4	750
Manganese (Mn)	< 0,40	< 0,40	< 0,40	0,4	90
Barium (Ba)	< 0,40	< 0,40	< 0,40	0,4	1000

Requirements

Oeko-Tex® requirement in product class I is shown in the last column.

Heavy metals, Oeko-Tex® Standard 201, M-10 and M-11
Acidic perspiration extractable content. (mg/kg textile)

	<u>Sample</u> <u>G</u>	<u>Sample</u> <u>H</u>	<u>Sample</u> <u>I</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments max.</u>
Antimony (Sb)	< 0,02	< 0,02	0,20	0,02	30
Arsenic (As)	< 0,02	< 0,02	< 0,02	0,02	0,2
Lead (Pb)	< 0,02	< 0,02	< 0,02	0,02	0,2
Cadmium (Cd)	< 0,02	< 0,02	< 0,02	0,02	0,1
Chromium (Cr)	< 0,02	< 0,02	< 0,02	0,02	1
Cobalt (Co)	< 0,02	< 0,02	< 0,02	0,02	1
Copper (Cu)	0,50	< 0,40	< 0,40	0,4	25
Nickel (Ni)	< 0,10	< 0,10	< 0,10	0,1	1
Mercury (Hg)	< 0,01	< 0,01	< 0,01	0,01	0,02
Selenium (Se)	< 0,10	< 0,10	< 0,10	0,1	100
Zinc (Zn)	< 0,40	< 0,40	0,62	0,4	750
Manganese (Mn)	< 0,40	< 0,40	< 0,40	0,4	90
Barium (Ba)	< 0,40	< 0,40	< 0,40	0,4	1000

Requirements

Oeko-Tex® requirement in product class I is shown in the last column.

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Heavy metals in digested sample, Oeko-Tex® Standard 201, metode M-21.
(Content in mg/kg textile)

	<u>Sample</u> <u>A</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments,</u> <u>max.</u>
Lead (Pb)	1,10	0,2	75,0
Cadmium (Cd)	< 0,20	0,2	40,0
Antimony (Sb)	< 0,20	0,2	-

Requirements

Oeko-Tex requirement in product class I is shown in the last column.

Content of organic tin compounds. Oeko-Tex® Standard 201, M-17
(mg/kg textile)

	<u>Sample</u> <u>L</u>	<u>Sample</u> <u>M</u>	<u>Sample</u> <u>N</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments max.</u>
Tributyltin (TBT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Dibutyltin (DBT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Triphenyltin (TPhT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Diocetyl tin (DOT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Dimethyltin (DMT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Diphenyltin (DPhT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Monomethyltin (MMT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Monobutyltin (MBT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Monooctyltin (MOT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Tetrabutyltin (TeBT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Tricyclohexyltin (TCyHT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Trimethyltin (TMT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Triocetyl tin (TOT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Tripropyltin (TPT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Dipropyltin (DPT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Monophenyltin (MPhT)	< 0,05	< 0,05	< 0,05	0,05	0,5
Tetraethyltin (TeET)	< 0,05	< 0,05	< 0,05	0,05	0,5

Requirements

Oeko-Tex® requirement in product class I is shown in the last column.

Content of chlorinated phenols, OPP and phenol. Oeko-Tex® Standard 201, M-7
(mg/kg textile)

	<u>Sample</u> <u>B</u>	<u>Sample</u> <u>C</u>	<u>Sample</u> <u>D</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments max.</u>
Pentachlorophenol (PCP)	< 0,01	< 0,01	< 0,01	0,01	0,05
Tetrachlorophenols, sum (TeCP)	< 0,01	< 0,01	< 0,01	0,01	0,05
Trichlorophenols, sum (TrCP)	< 0,05	< 0,05	< 0,05	0,05	0,2
Dichlorophenols, sum (DCP)	< 0,05	< 0,05	< 0,05	0,05	0,5
Monochlorophenols (MCP)	< 0,05	< 0,05	< 0,05	0,05	0,5
Orthophenylphenol (OPP)	< 0,01	< 0,01	0,06	0,01	10
Phenol	< 2,00	< 2,00	< 2,00	2	20

Requirements

Oeko-Tex® requirement in product class I is given in the last column.

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Content of chlorinated phenols, OPP and phenol. Oeko-Tex® Standard 201, M-7
(mg/kg textile)

	Sample F	Sample H	Sample K	Detection limit	Require- ments max.
Pentachlorophenol (PCP)	< 0,01	< 0,01	< 0,01	0,01	0,05
Tetrachlorophenols, sum (TeCP)	< 0,01	< 0,01	< 0,01	0,01	0,05
Trichlorophenols, sum (TrCP)	< 0,05	< 0,05	< 0,05	0,05	0,2
Dichlorophenols, sum (DCP)	< 0,05	< 0,05	< 0,05	0,05	0,5
Monochlorophenols (MCP)	< 0,05	< 0,05	< 0,05	0,05	0,5
Orthophenylphenol (OPP)	< 0,01	< 0,01	< 0,01	0,01	10
Phenol	< 2,00	< 2,00	< 2,00	2	20

Requirements

Oeko-Tex® requirement in product class I is given in the last column.

Content of arylamines. Oeko-Tex® Standard 201, M-3

Content of 4-aminoazobenzene. Oeko-Tex® Standard 201, M-19
(mg/kg textile)

	Sample C	Sample H	Sample I	Detection limit
4-Aminobiphenyl	< 10	< 10	< 10	10
Benzidine	< 10	< 10	< 10	10
4-Chloro-o-toluidine	< 10	< 10	< 10	10
2-Naphthylamine	< 10	< 10	< 10	10
o-Aminoazotoluene	< 10	< 10	< 10	10
2-Amino-4-nitrotoluene	< 10	< 10	< 10	10
4-Chloraniline	< 10	< 10	< 10	10
2,4-Diaminoanisole	< 10	< 10	< 10	10
4,4'-Diaminodiphenylmethane	< 10	< 10	< 10	10
3,3'-Dichlorobenzidine	< 10	< 10	< 10	10
3,3'-Dimethoxybenzidine	< 10	< 10	< 10	10
3,3'-Dimethylbenzidine	< 10	< 10	< 10	10
4,4'-Methylenedi-o-toluidine	< 10	< 10	< 10	10
p-Cresidine	< 10	< 10	< 10	10
4,4'-Methylene-bis-(2-chloraniline)	< 10	< 10	< 10	10
4,4'-Oxydianiline	< 10	< 10	< 10	10
4,4'-Thiodianiline	< 10	< 10	< 10	10
o-Toluidine	< 10	< 10	< 10	10
2,4-Toluyldiamin	< 10	< 10	< 10	10
2,4,5-Trimethylaniline	< 10	< 10	< 10	10
o-Anisidine	< 10	< 10	< 10	10
2,4-Xylidin	< 10	< 10	< 10	10
2,6-Xylidin	< 10	< 10	< 10	10
Aniline (see note 1)	< 5	< 5	< 5	5
4-Aminoazobenzene (due to aniline)	< 10	< 10	< 10	10
4-Aminoazobenzene separately determined (M-19)	-	-	-	10

1) ≥ 10 mg/kg aniline indicates possible content of 4-aminoazobenzene.

Requirements

Oeko-Tex® requirement in all product classes: < 20 mg/kg free arylamine (on the list).

Azo dyes that cleave off ≥ 20 mg/kg arylamine from the list, must not be used.

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Content of arylamines. Oeko-Tex® Standard 201, M-3
Content of 4-aminoazobenzene. Oeko-Tex® Standard 201, M-19
(mg/kg textile)

	Sample K	Sample L	Sample M	Detection limit
4-Aminobiphenyl	< 10	< 10	< 10	10
Benzidine	< 10	< 10	< 10	10
4-Chloro-o-toluidine	< 10	< 10	< 10	10
2-Naphthylamine	< 10	< 10	< 10	10
o-Aminoazotoluene	< 10	< 10	< 10	10
2-Amino-4-nitrotoluene	< 10	< 10	< 10	10
4-Chloraniline	< 10	< 10	< 10	10
2,4-Diaminoanisole	< 10	< 10	< 10	10
4,4'-Diaminodiphenylmethane	< 10	< 10	< 10	10
3,3'-Dichlorobenzidine	< 10	< 10	< 10	10
3,3'-Dimethoxybenzidine	< 10	< 10	< 10	10
3,3'-Dimethylbenzidine	< 10	< 10	< 10	10
4,4'-Methylenedi-o-toluidine	< 10	< 10	< 10	10
p-Cresidine	< 10	< 10	< 10	10
4,4'-Methylene-bis-(2-chloraniline)	< 10	< 10	< 10	10
4,4'-Oxydianiline	< 10	< 10	< 10	10
4,4'-Thiodianiline	< 10	< 10	< 10	10
o-Toluidine	< 10	< 10	< 10	10
2,4-Toluyldiamin	< 10	< 10	< 10	10
2,4,5-Trimethylaniline	< 10	< 10	< 10	10
o-Anisidine	< 10	< 10	< 10	10
2,4-Xylidin	< 10	< 10	< 10	10
2,6-Xylidin	< 10	< 10	< 10	10
Aniline (see note 1)	< 5	< 5	< 5	5
4-Aminoazobenzene (due to aniline)	< 10	< 10	< 10	10
4-Aminoazobenzene separately determined (M-19)	-	-	-	10

1) ≥ 10 mg/kg aniline indicates possible content of 4-aminoazobenzene.

Requirements

Oeko-Tex® requirement in all product classes: < 20 mg/kg free arylamine (on the list).

Azo dyes that cleave off ≥ 20 mg/kg arylamine from the list, must not be used.

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Content of banned disperse dyes. Oeko-Tex® Standard 201, M-4
(mg/kg textile)

	<u>Sample</u>
<u>Allergenic disperse dyes:</u>	<u>I</u>
Disperse Blue 1	< 10
Disperse Blue 3	< 10
Disperse Blue 7	< 10
Disperse Blue 26	< 10
Disperse Blue 35	< 10
Disperse Blue 102	< 10
Disperse Blue 106	< 10
Disperse Blue 124	< 10
Disperse Brown 1	< 10
Disperse Orange 1	< 10
Disperse Orange 3	< 10
Disperse Orange 37/59/76	< 10
Disperse Red 1	< 10
Disperse Red 11	< 10
Disperse Red 17	< 10
Disperse Yellow 1	< 10
Disperse Yellow 3	< 10
Disperse Yellow 9	< 10
Disperse Yellow 39	< 10
Disperse Yellow 49	< 10
<u>Carcinogenic disperse dyes:</u>	
Disperse Blue 1	< 10
Disperse Yellow 3	< 10
Disperse Orange 11	< 10
<u>Other banned dyes:</u>	
Disperse Yellow 23	< 10
Disperse Orange 149	< 10
Basic Green (oxalate)	< 10
Basic Green (chloride)	< 10
Basic Green (free)	< 10
Quinolin	< 10

Requirements

Oeko-Tex® requirement in all product classes: < 20 mg/kg (on the list), except Quinoline for which 50 mg/kg is allowed.

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Content of chlorinated benzenes and toluenes.
Oeko-Tex® Standard 201, M-2
(mg/kg textile)

	<u>Sample</u> <u>I</u>	<u>Detection</u> <u>limit</u>
Chlorobenzene	< 0,05	0,05
Dichlorobenzenes	< 0,01	0,01
Trichlorobenzenes	< 0,01	0,01
Tetrachlorobenzenes	< 0,01	0,01
Pentachlorobenzenes	< 0,01	0,01
Hexachlorobenzene	< 0,01	0,01
Chlorotoluenes	< 0,01	0,01
Dichlorotoluenes	< 0,01	0,01
Trichlorotoluenes	< 0,01	0,01
Tetrachlorotoluenes	< 0,01	0,01
Pentachlorotoluene	< 0,01	0,01
Sum	Not detectable	0,05

Requirements

Oeko-Tex® requirement in all product classes: ≤ 1.0 mg/kg.

Solvent residues. Oeko-Tex® Standard 201, M-26
(mg/kg textile)

	<u>Sample</u> <u>B</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments</u> <u>max.</u>
1-Methyl-2-pyrrolidone (NMP)	< 100,00	100	500,0
N,N-Dimethylacetamide (DMAc)	< 100,00	100	500,0
Dimethylformamide (DMF)	< 100,00	100	500,0
Formamide	< 10,00	10	200,0
Benzene	< 0,10	0,1	1

Requirements

Oeko-Tex® requirement in product class I is shown in the last column.

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Surfactants and wetting agents residues (alkylphenols og alkylphenol ethoxylates).
Oeko-Tex® Standard 201, M-25
(mg/kg textile)

	<u>Sample</u> <u>B</u>	<u>Sample</u> <u>E</u>	<u>Sample</u> <u>I</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments</u>
Alkylphenols (OP + NP + HpP + PeP), sum	< 0,10	< 0,10	< 0,10	0,1	< 5
Alkylphenol ethoxylates (OP + NP + HpP + PeP + OP(EO) + NP(EO)), sum	< 0,10	< 0,10	< 0,10	0,1	< 50

NP = Nonylphenol HpP = Heptylphenol NP(EO) = Nonylphenoethoxylates
OP = Octylphenol PeP = Pentylphenol OP(EO) = Octylphenoethoxylates

Requirements

Oeko-Tex® requirement in product class I is shown in the last column.

Emission of volatile organic compounds, VOC.
Oeko-Tex® Standard 201, M-14
(mg/m³)

	<u>Sample</u> <u>A</u>	<u>Detection</u> <u>limit</u>	<u>Require-</u> <u>ments max.</u>
Toluene	< 0,0007	0,0007	0,1
Styrene	< 0,0007	0,0007	0,005
Vinylcyclohexene	< 0,0007	0,0007	0,002
Phenylcyclohexene	< 0,0007	0,0007	0,03
Butadiene	N/A	0,0005	0,002
Vinylchloride	N/A	0,0005	0,002
Aromatic hydrocarbons	0,0014	0,0007	0,3
Volatile organic compounds	0,07	0,07	0,5

Requirements

Oeko-Tex® requirement in product class I is shown in the last column.