

Reference: M2221393
T2221061 - COTTON - khaki
T2221064 - NYLON/RAYON/SPAN - purple

Determination of organo tin compounds

Date of ending the test 07-11-2022
 Standard used OEKO-TEX® (2022)
 Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4
 Deviation from the standard
 Extraction method Ultrasonic extraction with ethanol/acetic acid
 Derivatisation Tetraethylborate
 Analytical method GC-MS/MS
 Compounds See table
 Results
 Determination limit 0,10 mg/kg

Compounds	C (mg/kg)
TBT	< 0.10
TPhT	< 0.10
DBT	< 0.10
DMT	< 0.10
DOT	< 0.10
DPhT	< 0.10
DPT	< 0.10
MBT	< 0.10
MOT	< 0.10
MMT	< 0.10
MPhT	< 0.10
TeBT	< 0.10
TeET	< 0.10
TCyHT	< 0.10
TMT	< 0.10
TOT	< 0.10
TeOT	< 0.10
TPT	< 0.10

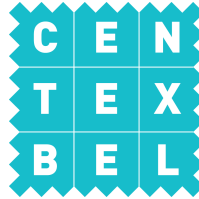


Reference: M2221393
T2221061 - COTTON - khaki
T2221064 - NYLON/RAYON/SPAN - purple

Determination of octylphenol, nonylphenol and their ethoxylates

Date of ending the test 08-11-2022
 Standard used OEKO-TEX® (2022)
 Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4
 Deviation from the standard
 Extraction method Ultrasonic extraction with methanol
 Analytical method ESI-LC/MS/MS
 Results
 Determination limit BP, NP, OP, HpP, PeP: 1 mg/kg
 NPEO, OPEO: 10 mg/kg

Compounds	C (mg/kg)
BP	< 1.00
NP	< 1.00
OP	< 1.00
HpP	< 1.00
PeP	< 1.00
NP(EO)	< 10.0
OP(EO)	< 10.0
Sum BP, NP, OP, HpP, PeP	< 2.00
Sum BP, NP, OP, HpP, PeP, NP(EO), OP(EO)	< 20.0



Reference: M2221395
T2221061 - COTTON - khaki
T2221064 - NYLON/RAYON/SPAN - purple
T2221062 - MODAL/POLYESTER - brown

Arylamines coming from prohibited azo dyes in textiles

Date of ending the test	21-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	
Preparation procedure	Textiles dyed with pigments and/or dyed with colorants other than disperse dyes
Analysis	HPLC with DAD, confirmation : APCI-LC/MS/MS
Additional EN 14362-3 test	No need
Results	
Reporting limit	5 mg/kg. Aniline 10 mg/kg

Components	C (mg/kg)
2,4,5-Trimethylaniline	< 5.00
2,4-Diaminoanisole	< 5.00
2,4-Toluylendiamine	< 5.00
2-Amino-4-nitrotoluene	< 5.00
2-Naphthylamine	< 5.00
3,3'-Dimethoxybenzidine	< 5.00
3,3'-Dimethyl-4,4'-diaminobiphenylmethane	< 5.00
3,3'-Dimethylbenzidine	< 5.00
3,3'-Dichlorobenzidine	< 5.00
4,4'-Diaminobiphenylmethane	< 5.00
4,4'-Methylene-bis-(2-chloroaniline)	< 5.00
4,4'-Oxydianiline	< 5.00
4,4'-Thiodianiline	< 5.00
4-Aminobiphenyl	< 5.00
4-Chloro-o-toluidine	< 5.00
Benzidine	< 5.00
O-Aminoazotoluene	< 5.00
O-Toluidine	< 5.00
P-Chloroaniline	< 5.00
P-Cresidine	< 5.00
O-Anisidine	< 5.00
2,4-Xylidine	< 5.00
2,6-Xylidine	< 5.00
4-Aminoazobenzene (°)	< 5.00
2-Naphthylammoniumacetate	< 5.00
4-Chloro-o-toluidinium chloride	< 5.00
2,4-Diaminoanisole sulphate	< 5.00
2,4,5-Trimethylaniline hydrochloride	< 5.00
Sum of all Arylamines	< 10.0

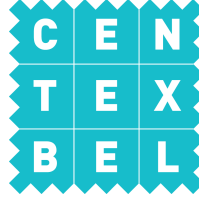
Compound	C (mg/kg)
Aniline	< 10.0

(°) 4-aminoazobenzene degrades under the testing conditions. When detecting possible degradation products, the standard prescribes an additional test (EN 14362-3 accredited)

Dyestuffs under observation

Components(*)	C (mg/kg)
2-Amino-5-nitrothiazole	< 5.00
p-phenetidine	< 5.00
2-methyl-p-phenylendiamine	< 5.00
p-Anisidine	< 5.00
3,3'-Diaminobenzidin (biphenyl-3,3',4,4'- tetrayltetraamine)	< 5.00

(*) these components are not covered by accreditation



Reference: T2221061 - COTTON - khaki

Determination of the colour fastness to water

Date of ending the test 14-11-2022
Standard used OEKO-TEX® (2022)
Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard
Apparatus Perspirometer

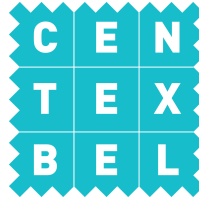
Results

Monofibre

	Numerical rating
Staining on cotton	5
Staining on wool	4-5

Grading against grey scale for change in colour (ISO105 A02) and/or staining (ISO 105 A03):

Use of a 9 point scale from 5 to 1; where 5 is excellent and 1 is poor. Intermediate values like 2-3 are possible.



Reference: T2221061 - COTTON - khaki

Determination of the colour fastness to perspiration

Date of ending the test 14-11-2022
 Standard used OEKO-TEX® (2022)
 Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4

Deviation from the standard
 Apparatus Perspirometer

Results

Monofibre, Alkaline solution

Numerical rating	
Staining on cotton	5
Staining on wool	4-5

Monofibre, Acid solution

Numerical rating	
Staining on cotton	5
Staining on wool	4-5

Grading against grey scale for change in colour (ISO105 A02) and/or staining (ISO 105 A03):

Use of a 9 point scale from 5 to 1; where 5 is excellent and 1 is poor. Intermediate values like 2-3 are possible.



Reference: T2221061 - COTTON - khaki

Determination of the colour fastness to rubbing

Date of ending the test 14-11-2022
 Standard used OEKO-TEX® (2022)
 Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4
 Deviation from the standard -
 Apparatus Crockmeter
 Pressure on test specimen 9 N
 Number of cycles 10
 Direction Fabrics : direction 1 = warp - direction 2 = weft
 Non-woven : direction 1 = production - direction 2 = perpendicular to it
 Manufactured: direction 1 = length - direction 2 = width
 Yarn and print : only 1 direction

Results

Staining on cotton rubbing cloth (dry)	Numerical rating
Direction 1	4-5
Direction 2	4-5

Grading against grey scale for change in colour (ISO105 A02) and/or staining (ISO 105 A03):

Use of a 9 point scale from 5 to 1; where 5 is excellent and 1 is poor. Intermediate values like 2-3 are possible.



Reference: T2221061 - COTTON - khaki

Determination of the pH of an aqueous extract

Date of ending the test 18-11-2022
Standard used OEKO-TEX® (2022)
Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4

Deviation from the standard
Electrode used Combined glass-electrode

Results

pH of the extraction liquid 5.7
Temperature of the extract in °C 23

Extract	pH
1	5.65
2	5.57
Average	5.6

Reference: T2221061 - COTTON - khaki

Determination of heavy metals

Date of ending the test 09-11-2022
Standard used OEKO-TEX® (2022)
Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard
Extraction method Acid solution (ISO 105 E04)
Determination ICP-OES
Cr(VI) - colorimetric

Metals	Determination limit (DL) mg/kg	Concentration mg/kg
Sb (antimony)	1.50	< 1.50
As (arsenic)	0.200	< 0.20
Pb (lead)	0.200	< 0.20
Cd (cadmium)	0.0500	< 0.05
Cr (chromium)	0.200	< 0.20
Co (cobalt)	0.100	< 0.10
Cu (copper)	1.50	< 1.50
Ni (nickel)	0.100	< 0.10
Hg (mercury)	0.0200	< 0.02
Ba (barium)	1.50	< 1.50
Se (selenium)	1.50	< 1.50

Reference: T2221061 - COTTON - khaki

Determination of OPP and chlorinated phenols

Date of ending the test 07-11-2022
Standard used OEKO-TEX® (2022)
Product standard Standard 100 by Oeko-Tex® (2022)_Appendix 4
Extraction method Microwave extraction with KOH
Analytical method HRAM GC-MS
Components O-phenylphenol (OPP)
phenol, 2 chlorophenol, 3 chlorophenol, 4 chlorophenol, 2,3 dichlorophenol, 2,4 dichlorophenol, 2,5 dichlorophenol, 2,6-dichlorophenol, 3,4-dichlorophenol, 3,5-dichlorophenol, 2,3,4-trichlorophenol, 2,3,5-trichlorophenol, 2,3,6-trichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 3,4,5-trichlorophenol, 2,3,5,6-tétrachlorophenol, 2,3,4,6-tétrachlorophenol, 2,3,4,5- tétrachlorophenol, pentachlorophenol (PCP)
Determination limit PCP, TeCP, TrCP, DCP, MCP: 0.02 mg/kg
Phenol: 10,0 mg/kg
OPP: 1.00 mg/kg

Compound	C (mg/kg)
Phenol	< 10
OPP	< 1.0
PCP	< 0.020
TeCP (Sum)	< 0.020
TrCP (Sum)	< 0.020
DCP (Sum)	< 0.020
MCP (Sum)	< 0.020



Greenwear Co., Ltd.
243, Geomjun-gil, Nam-myeon, Yanju-si, Gyeonggi-do
11410 Yanju – Gyeonggi
SOUTH KOREA

our reference

JLP.EW/3833

Gent

2022-11-30

STANDARD 100 by OEKO-TEX® certification report

1. Subject of Analysis

STANDARD 100 by OEKO-TEX® Certificate – Appendix 4

Commission piece dyeing with natural colorants of 100% cotton, cotton/spandex, cotton/polyester, cotton/polyester/spandex, tencel/spandex, tencel/polyester, modal/spandex, modal/polyester, modal/tencel, 100% nylon, nylon/spandex, nylon/tencel, nylon/rayon, nylon/rayon/spandex, nylon/modal, nylon/modal/polyester, 100% polyester, polyester/cotton, polyester/rayon, polyester/modal, polyester/spandex

Class II



our reference
JLP.EW/3833

Gent
2022-11-30

page
2 / 7

2. Conclusion

The materials with reference

- COTTON - khaki
- MODAL/POLYESTER - brown
- TENCEL/POLYESTER - dark purple
- NYLON/RAYON/SPAN - purple
- POLYESTER/RAYON - yellow

meet the requirements of STANDARD 100 by OEKO-TEX® – Appendix 4, Class II.

Please fill in the attached declaration of conformity and send the signed version back to us.

We would like to ask you to indicate in which language(s) you require the certificate and provide us with the right description in the right language.

Please also make sure that the correct address, as it should be written on the certificate, is mentioned.

As soon as we receive the declaration of conformity, completed and signed, we can proceed with the creation of the certificate.



3. Test results

Quality name

- mix: COTTON - khaki / NYLON/RAYON/SPAN - purple
- mix: MODAL/POLYESTER - brown / TENCEL/POLYESTER - dark purple
- mix: COTTON - khaki / NYLON/RAYON/SPAN - purple / MODAL/POLYESTER - brown
- COTTON - khaki
- MODAL/POLYESTER - brown
- TENCEL/POLYESTER - dark purple
- NYLON/RAYON/SPAN - purple
- POLYESTER/RAYON - yellow

Detailed information is to be found in: Analysis report 22.05688.01, dd. 22-11-2022

REFERENCE	mix: COTTON - khaki / NYLON/RAYON/SPAN - purple	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
Organic tin compounds - TBT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPhT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeET	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TCyHT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPT	< 2.0 mg/kg	< 0.10 mg/kg
BP, NP, OP, HpP, PeP – sum	< 10.0 mg/kg	< 2.00 mg/kg
BP, NP, OP, HpP, PeP, NP(EO), OP(EO) – sum	< 100.0 mg/kg	< 20.0 mg/kg

REFERENCE	mix: MODAL/POLYESTER - brown / TENCEL/POLYESTER - dark purple	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
Organic tin compounds - TBT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPhT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPT	< 2.0 mg/kg	< 0.10 mg/kg





our reference
JLP.EW/3833

Gent
2022-11-30

page
4 / 7

Organic tin compounds - MBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeET	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TCyHT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPT	< 2.0 mg/kg	< 0.10 mg/kg
BP, NP, OP, HpP, PeP – sum	< 10.0 mg/kg	< 2.00 mg/kg
BP, NP, OP, HpP, PeP, NP(EO), OP(EO) – sum	< 100.0 mg/kg	< 20.0 mg/kg

REFERENCE	mix: COTTON - khaki / NYLON/RAYON/SPAN - purple / MODAL/POLYESTER - brown	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
Sum of all Arylamines	< 20.0 mg/kg	< 10.0 mg/kg
Aniline	< 50.0 mg/kg	< 10.0 mg/kg
2-Amino-5-nitrothiazole	Under observation	< 5.00 mg/kg
p-Phenetidine	Under observation	< 5.00 mg/kg
2-Methyl-p-phenylendiamine	Under observation	< 5.00 mg/kg
p-Anisidine	Under observation	< 5.00 mg/kg
3,3'-Diaminobenzidin (biphenyl-3,3',4,4'-tetrayltetraamine)	Under observation	< 5.00 mg/kg

REFERENCE	COTTON - khaki	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
pH	4.0 - 7.5	5.6
Metal: Sb	< 30.0 mg/kg	< 1.50 mg/kg
Metal: As	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Pb	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Cd	< 0.1 mg/kg	< 0.05 mg/kg
Metal: Cr	< 2.0 mg/kg	< 0.20 mg/kg
Metal: Co	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Cu	< 50.0 mg/kg	< 1.50 mg/kg
Metal: Ni	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Hg	< 0.02 mg/kg	< 0.02 mg/kg
Metal: Ba	< 1000.0 mg/kg	< 1.50 mg/kg
Metal: Se	< 100.0 mg/kg	< 1.50 mg/kg
Pentachlorophenol (PCP)	< 0.5 mg/kg	< 0.020 mg/kg
Tetrachlorophenol (TeCP, sum)	< 0.5 mg/kg	< 0.020 mg/kg
Trichlorophenol (TrCP, sum)	< 2.0 mg/kg	< 0.020 mg/kg
Dichlorophenol (DCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Monochlorophenol (MCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Orthophenylphenol (OPP)	< 25.0 mg/kg	< 1.0 mg/kg
Phenol	< 50.0 mg/kg	< 10 mg/kg
Colour fastness to water	3	4-5





our reference
JLP.EW/3833

Gent
2022-11-30

page
5 / 7

Colour fastness to perspiration - acid	3-4	4-5
Colour fastness to perspiration - alkaline	3-4	4-5
Colour fastness to rubbing - dry	4	4-5

REFERENCE	MODAL/POLYESTER - brown	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
pH	4.0 - 7.5	6.0
Metal: Sb	< 30.0 mg/kg	< 1.50 mg/kg
Metal: As	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Pb	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Cd	< 0.1 mg/kg	< 0.05 mg/kg
Metal: Cr	< 2.0 mg/kg	< 0.20 mg/kg
Metal: Co	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Cu	< 50.0 mg/kg	< 1.50 mg/kg
Metal: Ni	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Hg	< 0.02 mg/kg	< 0.02 mg/kg
Metal: Ba	< 1000.0 mg/kg	< 1.50 mg/kg
Metal: Se	< 100.0 mg/kg	< 1.50 mg/kg
Pentachlorophenol (PCP)	< 0.5 mg/kg	< 0.020 mg/kg
Tetrachlorophenol (TeCP, sum)	< 0.5 mg/kg	< 0.020 mg/kg
Trichlorophenol (TrCP, sum)	< 2.0 mg/kg	< 0.020 mg/kg
Dichlorophenol (DCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Monochlorophenol (MCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Orthophenylphenol (OPP)	< 25.0 mg/kg	< 1.0 mg/kg
Phenol	< 50.0 mg/kg	< 10 mg/kg
Colour fastness to water	3	4-5
Colour fastness to perspiration - acid	3-4	4-5
Colour fastness to perspiration - alkaline	3-4	4-5
Colour fastness to rubbing - dry	4	4-5
Octamethylcyclotetrasiloxane (D4)	< 0.1 %	< 0.010 %
Decamethylcyclopentasiloxane (D5)	< 0.1 %	< 0.010 %
Dodecamethylcyclohexasiloxane (D6)	< 0.1 %	< 0.010 %

REFERENCE	TENCEL/POLYESTER - dark purple	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
pH	4.0 - 7.5	5.9
Formaldehyde	< 75.0 mg/kg	< 16.0 mg/kg
Colour fastness to water	3	5
Colour fastness to perspiration - acid	3-4	4-5
Colour fastness to perspiration - alkaline	3-4	5
Colour fastness to rubbing - dry	4	4-5

REFERENCE	NYLON/RAYON/SPAN - purple	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
Metal: Sb	< 30.0 mg/kg	< 1.50 mg/kg
Metal: As	< 1.0 mg/kg	< 0.20 mg/kg





our reference
JLP.EW/3833

Gent
2022-11-30

page
6 / 7

Metal: Pb	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Cd	< 0.1 mg/kg	< 0.05 mg/kg
Metal: Cr	< 2.0 mg/kg	< 0.20 mg/kg
Metal: Co	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Cu	< 50.0 mg/kg	< 1.50 mg/kg
Metal: Ni	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Hg	< 0.02 mg/kg	< 0.02 mg/kg
Metal: Ba	< 1000.0 mg/kg	< 1.50 mg/kg
Metal: Se	< 100.0 mg/kg	< 1.50 mg/kg
Pentachlorophenol (PCP)	< 0.5 mg/kg	< 0.020 mg/kg
Tetrachlorophenol (TeCP, sum)	< 0.5 mg/kg	< 0.020 mg/kg
Trichlorophenol (TrCP, sum)	< 2.0 mg/kg	< 0.020 mg/kg
Dichlorophenol (DCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Monochlorophenol (MCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Orthophenylphenol (OPP)	< 25.0 mg/kg	< 1.0 mg/kg
Phenol	< 50.0 mg/kg	< 10 mg/kg
Colour fastness to water	3	4-5
Colour fastness to perspiration - acid	3-4	4
Colour fastness to perspiration - alkaline	3-4	4-5
Colour fastness to rubbing - dry	4	5

REFERENCE	POLYESTER/RAYON - yellow	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	Requirements	Results
pH	4.0 - 7.5	5.8
Colour fastness to water	3	5
Colour fastness to perspiration - acid	3-4	5
Colour fastness to perspiration - alkaline	3-4	5
Colour fastness to rubbing - dry	4	5



4. Annex

- Analysis report 22.05688.01, dd. 22-11-2022
- Declaration of conformity

Best regards,

Jolien De Lepeleire – Coordinator OEKO-TEX®