

TÜV Rheinland LGA Products GmbH · 51101 Cologne
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07.07.2016

Report No. 0003188020/30 AZ 238539

Test item: One felt

Identification: 1) Article name: HARD FELT, Article No.: 1,
Date stamp of article: 28.06.2016,
Supplier name and number: Mikay Teknik Tekstil San. A.S.
Manufacturer's name: Mikay Teknik Tekstil San. A.S.
Material / Component: hard felt from textile wastes

Condition at delivery: No claim

Date of delivery: 29.06.2016

Place of testing: Cologne


Test period: 30.06.2016 to 07.07.2016

Test scope: Parameters selected by customer

Test specification: IKEA IOS-MAT-0010 Vers. AA-10911-13 dated 2015-11-13

Test result: Pass - According to the kind and extent of tests performed the test item meets the test specification.

Cologne, 07.07.2016


Dipl.-Ing. Gunther Bier
(Expert)


Petra Van Dyck
(Expert)

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2. Results

Alkylphenoethoxylates

Sample No.	238539-002		
Sample composition	Art. 1		
Unit	mg/kg		
Alkylphenoethoxylates			
Nonylphenoethoxylates	<20		
Octylphenoethoxylates	<20		

Limit values:

Textiles

Contamination limit value for non-wool and mixtures with < 20 % wool: 100 mg/kg (sum of APEO, AP and AP phosphites).

Limit value for mixtures with . 20 % wool: 250 mg/kg (sum of APEO, AP and AP phosphites).

Polymeric

250 mg/kg for APEO and AP phosphites

100 mg/kg for AP

Alkylphenols

Sample No.	238539-001		
Sample composition	Art. 1		
Unit	mg/kg		
Alkylphenols			
Nonylphenol	12		
4-n-Octylphenol	<5		
4-tert-Octylphenol	<5		

Limit values:

Textiles

Contamination limit value for non-wool and mixtures with < 20 % wool: 100 mg/kg (sum of APEO, AP and AP phosphites).

Limit value for mixtures with . 20 % wool: 250 mg/kg (sum of APEO, AP and AP phosphites).

Polymeric

250 mg/kg for APEO and AP phosphites

100 mg/kg for AP

Bisphenol-A, migration

Sample No.	238539-003		
Sample composition	Art. 1		
Unit	mg/kg food simulant		
Migration solution	H2O		
Conditions of migration	40°C / 24h		
Migration preparation	0,60dm ² /100 mL		
Bisphenol-A	<0,05		

Limit value 0,60 mg/l

If not further specified the 1st migrate is reported.

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Chloroparaffins

Sample No.	238539-008		
Sample composition	Art. 1		
Unit	mg/kg		
Chlorinated paraffine C10-C13	<50		

Limit value 100 mg Cl/kg

Flame retardants, brominated biphenyls and biphenyl ether

Sample No.	238539-004		
Sample composition	Art. 1		
Unit	mg/kg		
Brom. biphenyls and biphenyl ether			
Monobromobiphenyls	<5		
Dibromobiphenyls	<5		
Tribromobiphenyls	<5		
Tetrabromobiphenyls	<5		
Pentabromobiphenyls	<5		
Hexabromobiphenyls	<5		
Heptabromobiphenyls	<5		
Octabromobiphenyls	<5		
Nonabromobiphenyls	<5		
Decabromobiphenyls	<5		
Monobromodiphenyl ethers	<5		
Dibromodiphenyl ethers	<5		
Tribromodiphenyl ethers	<5		
Tetrabromodiphenyl ethers	<5		
Pentabromodiphenyl ethers	<5		
Hexabromodiphenyl ethers	<5		
Heptabromodiphenyl ethers	<5		
Octabromodiphenyl ethers	<5		
Nonabromodiphenyl ethers	<5		
Decabromodiphenyl ether	<5		
Hexabromo-cyclododecane, HBCDD	<5		

Limit value 100 mg Br/kg

Flame retardants, brominated phenols

Sample No.	238539-004		
Sample composition	Art. 1		
Unit	mg/kg		
Brominated phenols			
Tetrabromobisphenol A	<5		
2,4,6-Tribromophenol	<5		

Limit value 100 mg Br/kg

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Flame retardants, organophosphates

Sample No.	238539-004		
Sample composition	Art. 1		
Unit	mg/kg		
Organophosphates			
Trimethylphosphate	<5		
Triethylphosphate	<5		
Tributylphosphate	<5		
Tris-(2-chlorethyl)-phosphate	<5		
Tris-(monochlorpropyl)-phosphate	<5		
Triphenylphosphit	<5		
Tris(1,3dichlor2propyl)phosphate	<5		
Trisbutoxyethylphosphate	<5		
Triphenylphosphate	<5		
Trikresylphosphate	<5		

Limit value 200 mg/kg per compound

Flame retardants, TRIS

Sample No.	238539-005		
Sample composition	Art. 1		
Unit	mg/kg		
Tri-(2,3-dibromopropyl)-phosphate, TRIS	<3		

Flame retardants, TEPA

Sample No.	238539-004		
Sample composition	Art. 1		
Unit	mg/kg		
Tris-(aziridinyl)-phosphate, TEPA	<5		

Limit value 200 mg/kg

Formaldehyde, textile extraction method

Sample No.	238539-006		
Sample composition	Art. 1		
Unit	ppm		
Formaldehyde	<10		

Limit value for materials without reference in TED 100 ppm

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Heavy metals, soluble acid perspiration solution

Sample No.	238539-007		
Sample composition	Art. 1		
Unit	mg/kg		
Soluble heavy metals			
Antimony	4,0		
Arsenic	<0,1		
Lead	<0,2		
Cadmium	<0,05		
Chromium	<0,5		
Cobalt	<0,5		
Copper	<0,5		
Nickel	<0,5		
Mercury	<0,01		

Limit values:

Arsenic 0,2 mg/kg, Antimony 40 mg/kg, Lead 0,2 mg/kg, Cadmium 0,1 mg/kg, Chromium(VI) 3 mg/kg*, Mercury 0,02 mg/kg, Nickel 1 mg/kg, Copper 20 mg/kg, Cobalt 1 mg/kg

*If Cr-total is >3 mg/kg, Cr(VI) has to be tested.

Metals, total content at decomposition

Sample No.	238539-010		
Sample composition	Art. 1		
Unit	mg/kg		
Antimony	70		
Lead	<10		
Cadmium	<10		

Limit values:

Generally cadmium 40 mg/kg, lead 90 mg/kg, mercury 10 mg/kg

Stains/Pigments cadmium/lead 600 mg/kg each

Antimony as flame retardant 200 mg/kg, in Polyester due to production process 400 mg/kg

RoHS, chromium(VI)

Sample No.	238539-009		
Sample composition	Art. 1		
Unit	mg/kg		
Chromium(VI)	<10		

Limit value 100 mg/kg

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3. Summary of methods

Alkylphenoethoxylates	Standard: DIN EN ISO 18254	Issue date: 01.06.14
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Method description:
Textiles - Method for the detection and determination of alkylphenoethoxylates (APEO)

Alkylphenols		
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Method description:
In-house method - Determination of alkylphenols after solvent extraction, quantification by GC-MS
Notes:
Quantification equates the DIN EN ISO 18857-1.

Bisphenol-A, migration	Standard: DIN CEN/TS 13130-13	Issue date: 01.05.05
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Method description:
According to: Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 13: Determination of 2,2-bis(4-hydroxyphenyl)propane (Bisphenol A) in food simulants
Notes:
Analysis corresponds to EN 14372.

Chloroparaffins		
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Method description:
Non-leather materials - following CADS method with reference to ISO/FDIS 18219:2015; quantification based on technical mixture with chlorination degree 59% for SCCP and 55% for MCCP

Flame retardants, brominated biphenyls and biphenyl ether		
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Method description:
In-house method - Determination of brominated biphenyls and biphenyl ether after extraction with solvent, quantification by GC-MS
Notes:
Quantification according to: Method proposal Federal Institute for Material Research and Testing, Lab IV.22 Emission from materials, Berlin, Germany.

Flame retardants, brominated phenols	Standard: BVL B 82.02-08	Issue date: 01.06.01
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Method description:
Determination of brominated phenols according to: Material - Determination of 2,4,6-tribromophenol/tetrabrombisphenol

Flame retardants, organophosphates		
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Method description:
Determination of organophosphates by solvent extraction and GC-MS according to: Method proposal Federal Institute for Material Research and Testing, Lab IV.22 Emission from materials, Berlin, Germany

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Flame retardants, TRIS		
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Method description:
In-house method - Determination of Tri-(2,3-dibromopropyl)-phosphate after extraction with solvent, quantification by GC-MS and if necessary coverage by LC-MS-MS

Flame retardants, TEPA		
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Method description:
In-house method - Determination of Tris-(aziridiny)-phosphate (TEPA), extraction with organic solvent, quantification by GC-MS

Formaldehyde, textile extraction method	Standard: DIN EN ISO 14184-1	Issue date: 01.12.11
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Method description:
Textiles - Determination of formaldehyde - Part 1: Free and hydrolyzed formaldehyde (water extraction method), identical to BVL B 82.02-1 and Japanese LAW 112/JIS L 1041

Heavy metals, soluble acid perspiration solution	Standard: DIN EN 16711-2	Issue date: 01.04.14
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Method description:
Testing of textiles - Determination of metals - Part 2: Determination of metals extracting by acid synthetic perspiration solution (acc. to DIN EN ISO 105-E04)

Notes:
The result refers to the material as delivered.

Metals, total content at decomposition		
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Method description:
In-house method - Determination of heavy metals after decomposition according to EPA 3052, quantification by ICP-OES according to DIN EN ISO 11885 respectively ICP-MS according to DIN EN ISO 17294-2

RoHS, chromium(VI)	Standard: DIN EN 62321	Issue date: 01.12.09
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Method description:
Determination of hexavalent chromium (Cr(VI)) in polymers and electronics by the colorimetric method according to Electrotechnical products - Determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers), Annex C