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03.12.2018

Report No. 0003274924/90 AZ 326747

Test item: Seven foams
Detailed list see next page

Condition at delivery: No claim

Date of delivery: 26.11.2018

Place of testing: Cologne

Test period: 27.11.2018 to 03.12.2018

Test scope: Parameters selected by customer

Test specification: IKEA IOS-MAT-0010 Vers. AA-10911-14 dated 2018-06-20

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

Cologne, 03.12.2018

X *A. Rothe*

Sachverständige(r)/Expert
Signiert von: Annette Rothe

X *P. Van Dyck*

Sachverständige(r)/Expert
Signiert von: Petra Van Dyck

Report No.: 0003274924/90 AZ 326747
Date: 03.12.2018

Test item: Seven foams

Detailed list:

Material Description:

- 1) T-1818 (density: 16,0-17,7 kg/m³, hardness: 71-108 N), white
- 2) T-2538 (density: 22,4-24,6 kg/m³, hardness: 138-179 N), white
- 3) T-4050 (density: 36,4-38,4 kg/m³, hardness: 190-260 N), white
- 4) HR-2518 (density: 23,0-25,0 kg/m³, hardness: 64-80 N), grey
- 5) HR-4037-P (density: 37,0-39,4 kg/m³, hardness: 131-168 N), white
- 6) R-3030 (density: 28,5-31,5 kg/m³, hardness: 98,4-141,6 N), white
- 7) CM-3040 (density: 28,5-30,8 kg/m³, hardness: 123-177 N), white

Material Identification:

T-1818 - Standard polyurethane foam
T-2538 - Standard polyurethane foam
T-4050 - Standard polyurethane foam
HR-2518 - High resilience polyurethane foam
HR-4037-P - High resilience polyurethane foam
R-3030 - Combustion modified high resilience polyurethane foam
CM-3040 - Combustion modified polyurethane foam

Batch No.:

T-1818 (10229)
T-2538 (10246)
T-4050 (7045)
HR-2518 (10232)
HR-4037-P (10242)
R-3030 (10263)
CM-3040 (11165)

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2. Results

Organotin compounds

Sample No.	326747-008	326747-009	326747-010
Sample composition	Art. 1	Art. 2	Art. 3
Unit	mg/kg	mg/kg	mg/kg
Organotin compounds			
Monobutyltin, MBT	<0,05	<0,05	<0,05
Dibutyltin, DBT	<0,005	<0,005	<0,005
Tributyltin, TBT	<0,005	<0,005	<0,005
Tetrabutyltin, TeBT	<0,05	<0,05	<0,05
Monooctyltin, MOT	<0,05	<0,05	<0,05
Diocetyl tin, DOT	<0,05	<0,05	<0,05
Tricyclohexyltin, TcyT	<0,05	<0,05	<0,05
Triphenyltin, TPhT	<0,005	<0,005	<0,005
Dipropyltin	<0,05	<0,05	<0,05
Diphenyl tin	<0,05	<0,05	<0,05
Sum of organotin compounds	n.n.	n.n.	n.n.
Sum of tri-organotin compounds	n.n.	n.n.	n.n.
Sum of di-/tri-organotin compounds	n.n.	n.n.	n.n.

Sample No.	326747-011	326747-012	326747-013
Sample composition	Art. 4	Art. 5	Art. 6
Unit	mg/kg	mg/kg	mg/kg
Organotin compounds			
Monobutyltin, MBT	<0,05	<0,05	<0,05
Dibutyltin, DBT	<0,005	<0,005	<0,005
Tributyltin, TBT	<0,005	<0,005	<0,005
Tetrabutyltin, TeBT	<0,05	<0,05	<0,05
Monooctyltin, MOT	<0,05	<0,05	<0,05
Diocetyl tin, DOT	<0,05	<0,05	<0,05
Tricyclohexyltin, TcyT	<0,05	<0,05	<0,05
Triphenyltin, TPhT	<0,005	<0,005	<0,005
Dipropyltin	<0,05	<0,05	<0,05
Diphenyl tin	<0,05	<0,05	<0,05
Sum of organotin compounds	n.n.	n.n.	n.n.
Sum of tri-organotin compounds	n.n.	n.n.	n.n.
Sum of di-/tri-organotin compounds	n.n.	n.n.	n.n.

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Sample No.	326747-014		
Sample composition	Art. 7		
Unit	mg/kg		
Organotin compounds			
Monobutyltin, MBT	<0,05		
Dibutyltin, DBT	<0,005		
Tributyltin, TBT	<0,005		
Tetrabutyltin, TeBT	<0,05		
Monooctyltin, MOT	<0,05		
Diocetyl tin, DOT	<0,05		
Tricyclohexyltin, TcyT	<0,05		
Triphenyltin, TPhT	<0,005		
Dipropyltin	<0,05		
Diphenyl tin	<0,05		
Sum of organotin compounds	n.n.		
Sum of tri-organotin compounds	n.n.		
Sum of di-/tri-organotin compounds	n.n.		

Limit values:
DBT and TBT 0,2 mg/kg each
Sum of all organotin compounds 2,5 mg/kg

Phthalates

Sample No.	326747-015	326747-016	326747-017
Sample composition	Art. 1	Art. 2	Art. 3
Unit	mg/kg	mg/kg	mg/kg
Phthalates			
Bis-(2-ethylhexyl)phthalate, DEHP	<50	<50	<50
Benzylbutylphthalate, BBP	<50	<50	<50
Diisodecylphthalate, DIDP	<50	<50	<50
Diisononylphthalate, DINP	<50	<50	<50
Dibutylphthalate, DBP	<50	<50	<50
Di-n-hexyl phthalate, DNHP	<50	<50	<50
1,2-Benzenedicarboxylic acid, di-C6 -8-branched alkyl esters, C7-rich, DIHP	<50	<50	<50
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl ester, DHNUP	<50	<50	<50
Diisohexyl phthalate	n.n.	n.n.	n.n.
1,2-benzenedicarboxylic acid, dipentylester, branched and linear	<50	<50	<50
n-Pentyl-isopentyl phthalate, PiPP	n.n.	n.n.	n.n.
Di-n-pentylphthalate, DnPP	<50	<50	<50
Diisopentylphthalate DiPP	<50	<50	<50
Bis-(2-methoxyethyl) phthalate, BMEP	<50	<50	<50
Dicyclohexylphthalate, DCHP	n.n.	n.n.	n.n.
Diisobutylphthalate, DIBP	<50	<50	<50
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	n.n.	n.n.	n.n.
Di-n-octylphthalate, DNOP	<50	<50	<50

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Sample No.	326747-018	326747-019	326747-020
Sample composition	Art. 4	Art. 5	Art. 6
Unit	mg/kg	mg/kg	mg/kg
Phthalates			
Bis-(2-ethylhexyl)phthalate, DEHP	<50	<50	<50
Benzylbutylphthalate, BBP	<50	<50	<50
Diisodecylphthalate, DIDP	<50	<50	<50
Diisononylphthalate, DINP	<50	<50	<50
Dibutylphthalate, DBP	<50	<50	<50
Di-n-hexyl phthalate, DNHP	<50	<50	<50
1,2-Benzenedicarboxylic acid, di-C6 -8-branched alkyl esters, C7-rich, DIHP	<50	<50	<50
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl ester, DHNUP	<50	<50	<50
Diisohexyl phthalate	n.n.	n.n.	n.n.
1,2-benzenedicarboxylic acid, dipentylester, branched and linear	<50	<50	<50
n-Pentyl-isopentyl phthalate, PiPP	n.n.	n.n.	n.n.
Di-n-pentylphthalate, DnPP	<50	<50	<50
Diisopentylphthalate DiPP	<50	<50	<50
Bis-(2-methoxyethyl) phthalate, BMEP	<50	<50	<50
Dicyclohexylphthalate, DCHP	n.n.	n.n.	n.n.
Diisobutylphthalate, DIBP	<50	<50	<50
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	n.n.	n.n.	n.n.
Di-n-octylphthalate, DNOP	<50	<50	<50

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Sample No.	326747-021		
Sample composition	Art. 7		
Unit	mg/kg		
Phthalates			
Bis-(2-ethylhexyl)phthalate, DEHP	<50		
Benzylbutylphthalate, BBP	<50		
Diisodecylphthalate, DIDP	<50		
Diisononylphthalate, DINP	<50		
Dibutylphthalate, DBP	<50		
Di-n-hexyl phthalate, DNHP	<50		
1,2-Benzenedicarboxylic acid, di-C6 -8-branched alkyl esters, C7-rich, DIHP	<50		
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl ester, DHNUP	<50		
Diisohexyl phthalate	n.n.		
1,2-benzenedicarboxylic acid, dipentylester, branched and linear	<50		
n-Pentyl-isopentyl phthalate, PiPP	n.n.		
Di-n-pentylphthalate, DnPP	<50		
Diisopentylphthalate DiPP	<50		
Bis-(2-methoxyethyl) phthalate, BMEP	<50		
Dicyclohexylphthalate, DCHP	n.n.		
Diisobutylphthalate, DIBP	<50		
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	n.n.		
Di-n-octylphthalate, DNOP	<50		

n.n. not detectable

Limit value 100 mg/kg for each phthalate

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TDA and MDA

Sample No.	326747-001	326747-002	326747-003
Sample composition	Art. 1	Art. 2	Art. 3
Unit	mg/kg	mg/kg	mg/kg
2,4-Toluylendiamine	<1	<1	<1
2,6-Toluylendiamine	<1	<1	<1
2,2-Diaminodiphenylmethane	<1	<1	<1
2,4-Diaminodiphenylmethane	<1	<1	<1
4,4'-Diaminodiphenylmethane	<1	<1	<1

Sample No.	326747-004	326747-005	326747-006
Sample composition	Art. 4	Art. 5	Art. 6
Unit	mg/kg	mg/kg	mg/kg
2,4-Toluylendiamine	1,3	<1	<1
2,6-Toluylendiamine	<1	<1	<1
2,2-Diaminodiphenylmethane	<1	<1	<1
2,4-Diaminodiphenylmethane	<1	<1	<1
4,4'-Diaminodiphenylmethane	<1	<1	<1

Sample No.	326747-007		
Sample composition	Art. 7		
Unit	mg/kg		
2,4-Toluylendiamine	<1		
2,6-Toluylendiamine	<1		
2,2-Diaminodiphenylmethane	<1		
2,4-Diaminodiphenylmethane	<1		
4,4'-Diaminodiphenylmethane	<1		

Limit value 5 mg/kg per compound

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3. Summary of methods

Organotin compounds	Standard: ISO/TS 16179	Issue date: 01.08.12
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Method description:
Footwear - Critical substances potentially present in footwear and footwear components - Determination of organotin compounds in footwear materials.

Phthalates	Standard: ISO/DIS 8124-6	Issue date: 01.06.17
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Method description:
Safety of toys - Part 6: Certain phthalate esters in toys and children's products, method C

TDA and MDA		
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Method description:
Determination of TDA and MDA after extraction with 0,1% acetic acid, afterwards derivatization with pentafluoropropionic acid anhydride (PFPA) and quantification by LC-MS according to Analytica Chimica Acta 510 (2004) 109-119, deviation in sample preparation 0,4 g on 6 ml

----End of report----