

TÜV Rheinland LGA Products GmbH · 51101 Cologne

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16.01.2015

Report No. 0003133217/30 AZ192188

Test item: Eight foams

Identification: 1) Standard polyurethane foam, type T-1818, white; batch: 1381/14
2) Standard polyurethane foam, type T-2538, violet; batch: 1396/14
3) Standard polyurethane foam, type T-4050, white; batch: 1392/14
4) High resilience polyurethane foam, type HR-2520, grey; batch: 1451/14
5) High resilience polyurethane foam, type HR-4037, yellow; batch: 1376/14
6) Combustion modified high resilience polyurethane foam,
type R-3030, white; batch: 1427/14
7) Combustion modified high resilience polyurethane foam,
type CM-3040, white; batch: 1414/14
8) Visco-elastic polyurethane foam, type V-5025, white; batch: 1291/14

Condition at delivery: No claim

Date of delivery: 09.01.2015

Place of testing: Cologne

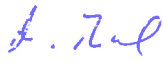
Test period: 12.01.2015 to 16.01.2015

Test scope: Parameters selected by customer

Test specification: IKEA IOS-MAT-0010 Vers. AA-10911-11 dated 2013-05-10

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

Cologne, 16.01.2015


Dipl.-Ing. Margot Thiel
(Expert)


Petra Van Dyck
(Expert)

The test results exclusively refer to the samples examined.

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Report No.: 0003133217/30 AZ192188

Date: 16.01.2015

2. Results

Organotin compounds

Sample No.	192188-009	192188-010	192188-011
Sample composition	Art. 1	Art. 2	Art. 3
Unit	mg/kg	mg/kg	mg/kg
Organotin compounds, total	n.n.	n.n.	n.n.
Monobutyltin, MBT	<0,005	<0,005	<0,005
Dibutyltin, DBT	<0,005	<0,005	<0,005
Tributyltin, TBT	<0,005	<0,005	<0,005
Tetrabutyltin, TeBT	<0,005	<0,005	<0,005
Monooctyltin, MOT	<0,005	<0,005	<0,005
Diocetyl tin, DOT	<0,005	<0,005	<0,005
Tricyclohexyltin, TcyT	<0,005	<0,005	<0,005
Triphenyltin, TPhT	<0,005	<0,005	<0,005

Sample No.	192188-012	192188-013	192188-014
Sample composition	Art. 4	Art. 5	Art. 6
Unit	mg/kg	mg/kg	mg/kg
Organotin compounds, total	n.n.	n.n.	n.n.
Monobutyltin, MBT	<0,005	<0,005	<0,005
Dibutyltin, DBT	<0,005	<0,005	<0,005
Tributyltin, TBT	<0,005	<0,005	<0,005
Tetrabutyltin, TeBT	<0,005	<0,005	<0,005
Monooctyltin, MOT	<0,005	<0,005	<0,005
Diocetyl tin, DOT	<0,005	<0,005	<0,005
Tricyclohexyltin, TcyT	<0,005	<0,005	<0,005
Triphenyltin, TPhT	<0,005	<0,005	<0,005

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Sample No.	192188-015	192188-016	
Sample composition	Art. 7	Art. 8	
Unit	mg/kg	mg/kg	
Organotin compounds, total	n.n.	n.n.	
Monobutyltin, MBT	<0,005	<0,005	
Dibutyltin, DBT	<0,005	<0,005	
Tributyltin, TBT	<0,005	<0,005	
Tetrabutyltin, TeBT	<0,005	<0,005	
Monooctyltin, MOT	<0,005	<0,005	
Diocetyl tin, DOT	<0,005	<0,005	
Tricyclohexyltin, TcyT	<0,005	<0,005	
Triphenyltin, TPhT	<0,005	<0,005	

n.n. not detectable

Limit values:

DBT and TBT 0,1 mg/kg each

Sum of all organotin compounds 2,5 mg/kg

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Plasticizer

Sample No.	192188-017	192188-018	192188-019
Sample composition	Art. 1	Art. 2	Art. 3
Unit	mg/kg	mg/kg	mg/kg
Phthalates, total	11	17	n.n.
Bis-(2-ethylhexyl)phthalate, DEHP	<10	<10	<10
Dibutylphthalate, DBP	<10	<10	<10
Benzylbutylphthalate, BBP	<10	<10	<10
Diisononylphthalate, DINP	<10	<10	<10
Diisodecylphthalate, DIDP	<10	<10	<10
Di-n-octylphthalate, DNOP	<10	<10	<10
Diisobutylphthalate, DIBP	11	17	<10
Di-C6-8-branched phthalates, DIHP	<10	<10	<10
Dimethylglycolphthalate, BMEP	<10	<10	<10
Di-n-hexyl phthalate, DNHP	<10	<10	<10
Di-C7-11-branch. linear phthal. DHNUP	n.n.	n.n.	n.n.
Diisopentylphthalate DiPP	n.n.	n.n.	n.n.
Pentyl-iso-pentylphthalate, PiPP	n.n.	n.n.	n.n.

Sample No.	192188-020	192188-021	192188-022
Sample composition	Art. 4	Art. 5	Art. 6
Unit	mg/kg	mg/kg	mg/kg
Phthalates, total	n.n.	n.n.	n.n.
Bis-(2-ethylhexyl)phthalate, DEHP	<10	<10	<10
Dibutylphthalate, DBP	<10	<10	<10
Benzylbutylphthalate, BBP	<10	<10	<10
Diisononylphthalate, DINP	<10	<10	<10
Diisodecylphthalate, DIDP	<10	<10	<10
Di-n-octylphthalate, DNOP	<10	<10	<10
Diisobutylphthalate, DIBP	<10	<10	<10
Di-C6-8-branched phthalates, DIHP	<10	<10	<10
Dimethylglycolphthalate, BMEP	<10	<10	<10
Di-n-hexyl phthalate, DNHP	<10	<10	<10
Di-C7-11-branch. linear phthal. DHNUP	n.n.	n.n.	n.n.
Diisopentylphthalate DiPP	n.n.	n.n.	n.n.
Pentyl-iso-pentylphthalate, PiPP	n.n.	n.n.	n.n.

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Sample No.	192188-023	192188-024	
Sample composition	Art. 7	Art. 8	
Unit	mg/kg	mg/kg	
Phthalates, total	n.n.	14	
Bis-(2-ethylhexyl)phthalate, DEHP	<10	<10	
Dibutylphthalate, DBP	<10	<10	
Benzylbutylphthalate, BBP	<10	<10	
Diisononylphthalate, DINP	<10	<10	
Diisodecylphthalate, DIDP	<10	<10	
Di-n-octylphthalate, DNOP	<10	<10	
Diisobutylphthalate, DIBP	<10	14	
Di-C6-8-branched phthalates, DIHP	<10	<10	
Dimethylglycolphthalate, BMEP	<10	<10	
Di-n-hexyl phthalate, DNHP	<10	<10	
Di-C7-11-branch. linear phthal. DHNUP	n.n.	n.n.	
Diisopentylphthalate DiPP	n.n.	n.n.	
Pentyl-iso-pentylphthalate, PiPP	n.n.	n.n.	

n.n. not detectable

Limit values:
100 mg/kg for each phthalate
foam 100 mg/kg for total sum

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TDA and MDA

Sample No.	192188-001	192188-002	192188-003
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.	192188-004	192188-005	192188-006
Sample composition	Art. 4	Art. 5	Art. 6
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.	192188-007	192188-008	
Sample composition	Art. 7	Art. 8	
Unit	mg/kg	mg/kg	
2,4-Toluylendiamine	<1	<1	
2,6-Toluylendiamine	<1	<1	
2,2-Diaminodiphenylmethane	<1	<1	
2,4-Diaminodiphenylmethane	<1	<1	
4,4'-Diaminodiphenylmethane	<1	<1	

Limit value 5 mg/kg per compound

----End of results----

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Date: 16.01.2015

3. Summary of methods

Organotin compounds		
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Method description:

In-house method - Determination of organotin compounds after extraction with methanolic solvent and derivatisation. Quantification by GC-MS

Notes:

Quantification equates the DIN EN ISO 17353.

Plasticizer		
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Method description:

In-house method - Determination of selected phthalates after solvent extraction, quantification by GC-MS

Notes:

Quantification equates the DIN EN ISO 18856.

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