

## TEST REPORT

Date of Application: 10 02 2014

Date of Receipt of samples: 10 02 2014

Subject of Application: Test of plastic shakers according to the Regulation 1935/2004/EC and 10/2011/EC.

Description of Sample: Plastic Shaker  
Color: Green  
Masterbatch: PE 1A128 E  
(Green-yellow Fluor PE MB)



Lid  
Material: HDPE Exxon Mobil HMA 025

Cup  
Material: Polypropylene TIPPLEN R 359

Transparent sieve  
Material: Polypropylene TIPPLEN H 145 F

Cap  
Material: Polypropylene TIPPLEN K 395 A

The samples were submitted by the Applicant.

Note: The results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the laboratory



Test period: 10 02 2014 – 28 02 2014

Documentation: Declaration datasheet

Conclusion:

Sensory test	Green plastic shaker	Test pass
Global migration		Test pass
Migration of metals		Test pass
Migration of primary aromatic amines		Test pass
Migration of phthalates		Test pass
Colorants' test		Test pass


Test results:

## 1. Sensory test

Test method: DIN 10955:2004, §64 LFGB B 80.00-4 (§35 LFGB B 80.00-4)

Test parameter	Test results	Requirement Regulation 1935/2004/EC
Sensorial examination 24 hours, room temperature	Green plastic shaker	
Smell	Cup: 0 Lid: 0	Max. 2.5
Taste	Cup: 1 Lid: 1	Max. 2.5

\*0=no discernible deviation  
 1= barely discernible deviation  
 2=weak deviation  
 3=clear deviation  
 4=strong deviation

 2. Global migration

Test method: MSZ EN 1186-8:2002, MSZ EN 1186-9:2002

Test parameters	Test results [mg/dm <sup>2</sup> ] ±rel. 5%		Requirements Regulation 1935/2004/EC 10/2011/EC
	Green plastic Cup	Green plastic Lid	
Global migration			
40°C, 24 hours, 3% acetic acid	2.4	2.4	10 mg/dm <sup>2</sup>
40°C, 24 hours, distilled water	<1	<1	
40°C, 24 hours, 10% ethanol	2.4	2.4	
40°C, 24 hours, olive oil	<1	<1	



Test parameters	Test results [mg/dm <sup>2</sup> ] ±rel. 5%		Requirements Regulation 1935/2004/EC 10/2011/EC
	Transparent sieve	Green plastic Cap	
Global migration			10 mg/dm <sup>2</sup>
40°C, 24 hours, 3% acetic acid	1.9	2.4	
40°C, 24 hours, distilled water	<1	<1	
40°C, 24 hours, 10% ethanol	<1	2.4	
40°C, 24 hours, olive oil	<1	<1	

Detection limit: 1 mg/dm<sup>2</sup>

### 3. Migration of metals

Test method: ICP-MS; MSZ EN ISO 17294-2:2005; EPA 6020A/2007

Test parameters	Test results [mg/kg] ±rel. 10%		Requirements Regulation 1935/2004/EC 10/2011/EC
	Green plastic Cup	Green plastic Lid	
Metals Test circumstances: 40°C; 1 day, 3% acetic acid			
Barium (Ba)	<0.003	<0.003	1 mg/kg
Cobalt (Co)	<0.0005	<0.0005	0.05 mg/kg
Copper (Cu)	<0.0005	<0.0005	5 mg/kg
Iron (Fe)	<0.005	<0.005	48 mg/kg
Lithium (Li)	<0.001	<0.001	0.6 mg/kg
Manganese (Mn)	<0.003	<0.003	0.6 mg/kg
Zink (Zn)	<0.005	<0.005	25 mg/kg



Test parameters	Test results [mg/kg] $\pm$ rel. 10%		Requirements Regulation 1935/2004/EC 10/2011/EC
	Transparent sieve	Green plas- tic Cap	
Metals Test circumstances: 40°C; 1 day, 3% acetic acid			
Barium (Ba)	<0.003	<0.003	1 mg/kg
Cobalt (Co)	<0.0005	<0.0005	0.05 mg/kg
Copper (Cu)	<0.0005	<0.0005	5 mg/kg
Iron (Fe)	<0.005	<0.005	48 mg/kg
Lithium (Li)	<0.001	<0.001	0.6 mg/kg
Manganese (Mn)	<0.003	<0.003	0.6 mg/kg
Zink (Zn)<0.005<0.005			25 mg/kg

Detection limits: Ba, Mn: 0.003, Co, Cu: 0.0005, Fe, Zn: 0.005, Li: 0.001

#### 4. Migration of primary aromatic amines

Test method: § 64 LFGB Nr. 00.00-6 (§ 35 LFGB Nr. 00.00-6)

Test parameters	Test result [mg/kg simulant] $\pm$ 5%	Requirement Regulation 1935/2004/EC and 10/2011/EC
	Primary aromatic amines	
3% acetic acid, 1 day, 40°C, 3. cycle	n.d.*	0.01 mg/kg

\*n.d.: not detected, Detection limit: 0.01 mg/kg



## 5. Migration of phthalates

Test method: MSZ EN 1186-9:2002 (sample preparation), MSZ EN 15777:2009

Tested phthalates	CAS No.	Test results [mg/kg simulant] ± rel. 10%	Requirement Regulation 1935/2004/EC and 10/2011/EC
		Average of cup, cap and the lid	
Dimethyl phthalate DMP	131-11-3	n.d.	-
Diethyl phthalate DEP	84-66-2	n.d.	-
Dipropyl phthalate DPrP	131-16-8	n.d.	-
Di-n-butyl phthalate DBP	84-74-2	n.d.	<0.3 mg/kg
Diisobutyl phthalate DIBP	84-69-5	n.d.	-
Benzyl butyl phthalate BBP	85-68-7	n.d.	<30 mg/kg
Di-n-octyl phthalate DNOP	117-84-0	n.d.	-
Diisooctyl phthalate DIOP	27554-26-3	n.d.	-
Dinonyl phthalate DNP	84-76-4	n.d.	-
Diisononyl phthalate DINP	68515-48-0	n.d.	-
Didecyl phthalate DDP	84-77-5	n.d.	-
Diisodecyl phthalate DIDP	26761-40-0	n.d.	-
Diundecyl phthalate DUP	3648-20-2	n.d.	-
Bis(2-ethylhexyl) phthalate DEHP	117-81-7	n.d.	<1.5 mg/kg
Dicyclohexyl phthalate DCHP	84-61-7	n.d.	-
Bis(2-methoxyethyl) phthalate DMoEP	117-82-8	n.d.	-
Diallyl phthalate DAP	131-17-9	n.d.	n.d.
Diphenyl phthalate DPhP	84-62-8	n.d.	-

\*n.d.: not detected; detection limit: 0.03 mg/kg simulant : DMP, DEP, DPrP, DBP, DIBP, BBP, DNOP, DDP, DUP, DEHP, DCHP, DMoEP, DAP, DPhP; 0.3 mg/kg simulant: DIOP, DNP, DINP, DIDP



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6. Migration of colorants\*

Test method: MSZ 10089:1982

Test parameters	Test result	Requirement MSZ 10089:1982 withdrawn
	Average of cup, cap and the lid	
Colorants	Not observed	Not observed

\*Test method is not accredited.

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