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**Report No.:** 16044-1 SHA17  
**Date:** 11.12.17  
**Order No.:** SHA-21670-17  
**Date of order:** 04.12.17  
**Contact:** Penny Guo  
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## Test Report

Order description:

**Chemical Test**

Article Name	Ring rattle
Material	PC
Condition of sample at delivery	no defects
Arrival date	04.12.17
Test start date	04.12.17
Test end date	11.12.17



### Limit lists

Chem.	Limit values according to legal requirements
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**Final conclusion: PASS**

*Test results and evaluation are only related to tested items and to performed methods. Detailed information regarding measurement uncertainties are available on request.*

*Jacky Sun*  
Jacky Sun  
Report Reviewer

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## Summary

17-063712-01 - Ring rattle

The test result complies with the requirements according to the scope of analysis.

Remark: The test item was conducted by an accredited subcontractor.

## Overview of Chem. testing

Sample no	Type / Style
17-063712-01	-

Component list	
No	Components
01	Transparent plastic

Customer requirements evaluation				
	Components			
	Tested	Result	Failed	Not tested
Migration of certain elements(Category 3)	01	PASS		

Legend: Chem.: chemical tests, Phys.: physical tests, m.s.: composite sample, n.d.: not determined, n.a.: not applicable, n.t.: not tested, i.m.: insufficient material, sum: see summary, s.c.: see component, pos: positive, neg: negative, min: minimum limit, max: maximum limit

## Detailed results of Chem. testing

Sample no: 17-063712-01

### Migration of certain elements(Category 3)

Sample type: Chem.

Norm: EN 71-3

			01
Parameter	Unit	Limit	Result
Lead (Pb) EN 71-3 category 3	mg/kg	23	<10
Antimony (Sb): EN 71-3 category 3	mg/kg	560	<10
Arsenic (As) EN 71-3 category 3	mg/kg	47	<10
Barium (Ba): EN 71-3 category 3	mg/kg	18750	<50
Cadmium (Cd): EN 71-3 category 3	mg/kg	17	<10
Chromium III (Cr III) EN 71-3 category 3	mg/kg	460	<5
Chromium VI (Cr VI) EN 71-3 category 3	mg/kg	0.2	<0.2
Mercury (Hg) EN 71-3 category 3	mg/kg	94	<10
Selenium (Se): EN 71-3 category 3	mg/kg	460	<10
Boron (B): EN 71-3 category 3	mg/kg	15000	<50
Cobalt (Co): EN 71-3 category 3	mg/kg	130	<10
Manganese (Mn): EN 71-3 category 3	mg/kg	15000	<50
Strontium (Sr): EN 71-3 category 3	mg/kg	56000	<50
Tin (Sn): EN 71-3 category 3	mg/kg	180000	<5
Zinc (Zn): EN 71-3 category 3	mg/kg	46000	<50
Copper (Cu): EN 71-3 category 3	mg/kg	7700	<50
Aluminum (Al): EN 71-3 category 3	mg/kg	70000	<50
Nickel (Ni): EN 71-3 category 3	mg/kg	930	<10
Organo tin compounds DI in EN 71-3 category 3	mg/kg	12	<0.02
<b>Evaluation</b>			<b>PASS</b>

The tested item was selected by the client. Remaining test material is disposed after 3 months. The report must not be reproduced except in full content without the written approval of the testing laboratory. The report is signed digitally and password protected. For printing use the print option -document and comments-. The amount of minor components may be insufficient to perform the announced tests. In this case the test report will carry the mark: component insufficient for lab test. If testing of all components is required we need a sufficient amount of all minor components.

### Migration of certain elements(Category 3)

Test method: EN 71-3

standardized method

Extractable Chromium(VI)& Extractable Chromium (III) - With reference to EN 71 Part 3, analysis was performed by HPLC-ICP-MS.

Elements - With reference to EN 71 Part 3, analysis was performed by ICP-MS.

Extractable Organic Tin -With reference to EN 71 Part 3, analysis was performed by GC-MS.

Parameter	CAS No	Parameter	CAS No
Aluminum (Al): EN 71-3 category 3	7429-90-5	Lead (Pb) EN 71-3 category 3	7439-92-1
Antimony (Sb): EN 71-3 category 3	7440-36-0	Manganese (Mn): EN 71-3 category 3	7439-96-5
Arsenic (As) EN 71-3 category 3	7440-38-2	Mercury (Hg) EN 71-3 category 3	7439-97-6
Barium (Ba): EN 71-3 category 3	7440-39-3	Nickel (Ni): EN 71-3 category 3	7440-02-0
Boron (B): EN 71-3 category 3	7440-42-8	Organo tin compounds DIN EN 71-3 category 3	
Cadmium (Cd): EN 71-3 category 3	7440-43-9	Selenium (Se): EN 71-3 category 3	7782-49-2
Chromium III (Cr III) EN 71-3 category 3		Strontium (Sr): EN 71-3 category 3	7440-24-6
Chromium VI (Cr VI) EN 71-3 category 3		Tin (Sn): EN 71-3 category 3	7440-31-5
Cobalt (Co): EN 71-3 category 3	7440-48-4	Zinc (Zn): EN 71-3 category 3	7440-66-6
Copper (Cu): EN 71-3 category 3	7440-50-8		