

MOLUK GmbH (www.moluk.com)

Seefeldstrasse 178, 8008 Zurich, Switzerland

The following merchandise was submitted & identified by the applicant as:

Sample description and function: Soft plastic cube frame
Packaging/Type: Yes/Plastic box, back card, hang tag
Instructions for use/assembly: Not provided
Type of Product: Oibo 3-set, primary colors,
Oibo 3-set, monochrome colors,
Oibo, blue
Style/Item No: 43420,43421,43422
Manufacturer/Vendor: MOLUK GmbH
Country of Origin: China
Country of Destination: EUROPE
Label Age Grading: 0 +
Requested Age Grading: 0 +
Age Group Assessed As Per Age 3 Months +
Guideline:
Age Group Applied in Testing: All ages
Sample Receiving Date: 2019/01/17
Testing Period: 2019/01/18 – 02/13

We have tested the submitted sample(s) as requested and the following results were obtained:

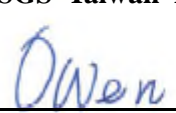
Test Requested:

Please refer to the result summary.

Methods and Results:

Please refer to next page(s).

Signed for and on behalf of
SGS Taiwan Ltd.


Owen Cheng
Manager



Result Summary:

As specified by client, selected parts of the submitted sample(s) for compliance with:

<u>Item</u>	<u>Test Parameter</u>	<u>Conclusion</u>
1	EN 71 Part 1:2014 +A1:2018 – Mechanical and Physical Properties	Pass (See result 1)
2	EN 71 Part 2:2011+A1:2014 – Flammability	Pass (See result 2)
3	EN 71 Part 3:2013+ A3:2018- Migration of Certain Elements	Pass (See result 3)
4	EN 71-12:2016 - N-Nitrosamines and N-nitrosatable substances	Pass (See result 4)
5	Cadmium(Cd) content in accordance with Annex 17 of REACH Regulation (EC) No 1907/2006	Pass (See result 5)
6	Polycyclic Aromatic Hydrocarbons contents in accordance with Annex 17 of REACH Regulation (EC) No 1907/2006	Pass (See result 6)
7	Phthalate content in accordance with Annex 17 of REACH Regulation (EC) No 1907/2006 (w/ DiBP)	Pass (See result 7)
8	Organic-tin compounds content in accordance with Annex 17 of REACH Regulation (EC) No 1907/2006	Pass (See result 8)
9	Migration Bisphenol A content with reference EN 71 -9 2D Migration Monomers	Pass (See result 9)
10	Flame Retardants content	Pass (See result 10)
11	Cadmium, Lead, Mercury and Hexavalent Chromium Cr (VI) contents (94/62/EC)	Pass (See result 11)

Test Results:

1. EN 71 Part 1:2014+A1:2018 – Mechanical and Physical Properties

Clause	Description	Result
4	General requirements	
4.1	Material cleanliness	<u>Pass</u>
4.7	Edges	<u>Pass</u>
4.8	Points and metallic wires	<u>Pass</u>
4.17	Projectiles	<u>Pass</u>
4.22	Small balls	<u>Pass</u>
5	Toys intended for children under 36 months	
5.1	General requirements	
5.1a	Small part requirement on toys & removable Components (Test method 8.2)	<u>Pass</u>
5.1b	Torque test (Test method 8.3)	<u>Pass</u>
	Tension test (Test method 8.4)	<u>Pass</u>
	Drop test (Test method 8.5)	<u>Pass</u>
	Impact test (Test method 8.7)	<u>Pass</u>
	Compression test (Test method 8.8)	<u>Pass</u>
	Sharp edge (Test method 8.11)	<u>Pass</u>
	Sharp point (Test method 8.12)	<u>Pass</u>
5.8	Shape and size of certain toys	<u>N/A</u>
5.10	Small balls	<u>Pass</u>

LABELING REQUIREMENT (WASHING/CLEANING INSTRUCTION, CE MARK, IMPORTER / MANUFACTURER NAME AND ADDRESS, PRODUCT IDENTIFICATION) ACCORDING TO THE DIRECTIVE 2009/48/EC – SAFETY OF TOYS

Summary table:

	Observation Result	Location
Washing/Cleaning instruction	Present	Hang tag, Back card
CE mark	Present	Hang tag, Back card
Importer's Name & Address	Present	Hang tag, Back card
Manufacturer's Name & Address	Present	Hang tag, Back card
Product ID	Present	Hang tag, Back card

Note:

1. According to Directive 2009/48/EC, a toy intended for use by children under 36 months must be designed and manufactured in such a way that it can be cleaned. A textile toy must, to this end, be washable, except if it contains a mechanism that may be damaged if soak washed. The manufacturer should, if applicable, provide instructions on how the toy has to be cleaned.
2. CE marking should be visible from outside the packaging and its height must be at least 5mm.
3. Manufacturer's and Importer's name, registered trade name or registered trade mark and the address at which the manufacturer can be contacted must be indicated on the toy or, where that is not possible, on its packaging or in a document accompanying the toy.
4. Manufacturers must ensure that their toys bear a type, batch, serial or model number or other element allowing their identification, or where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy.

2. EN 71 Part 2:2011+A1:2014 – Flammability

<u>Clause</u>	<u>Description</u>	<u>Result</u>
4	Requirements	
4.1	General requirements	<u>Pass</u>

N.B.: -Only applicable clauses were shown

3. Migration of Certain Elements

Category III: Scrapped-off toy material

Method: With reference to EN 71 Part 3:2013+ A3:2018. Analysis of general elements was performed by ICP-MS. Extractable Organic Tin was analyzed by GC-MS. Extractable Chromium III & Chromium VI were analyzed by LC-ICP-MS.

Test Items		Result(mg/kg)		RL	Limit
		1~3	7~9	(mg/kg)	(mg/kg)
Soluble Aluminium	(Al)	N.D.	N.D.	50	70,000
Soluble Antimony	(Sb)	N.D.	N.D.	10	560
Soluble Arsenic	(As)	N.D.	N.D.	10	47
Soluble Barium	(Ba)	N.D.	N.D.	50	18,750
Soluble Boron	(B)	N.D.	N.D.	50	15,000
Soluble Cadmium	(Cd)	N.D.	N.D.	5	17
Soluble Cobalt	(Co)	N.D.	N.D.	10	130
Soluble Copper	(Cu)	N.D.	N.D.	50	7,700
Soluble Lead	(Pb)	N.D.	N.D.	10	23
Soluble Manganese	(Mn)	N.D.	N.D.	50	15,000
Soluble Mercury	(Hg)	N.D.	N.D.	10	94
Soluble Nickel	(Ni)	N.D.	N.D.	10	930
Soluble Selenium	(Se)	N.D.	N.D.	10	460
Soluble Strontium	(Sr)	N.D.	N.D.	50	56,000
Soluble Tin	(Sn)	N.D.	N.D.	4.9	180,000
Soluble Zinc	(Zn)	N.D.	N.D.	50	46,000
Soluble Chromium (III)	(Cr (III))	N.D.	N.D.	5	460
Soluble Chromium (VI)	(Cr (VI))	N.D.	N.D.	0.18	0.2
Soluble Organic Tin#	-	N.D.	N.D.	-	12

Remark: #

Test Items		Soluble Organic Tin Result(s)		MDL (mg/kg)
		1~3	7~9	
Methyl tin	(MeT)	N.D.	N.D.	0.5
Di-n-propyl tin	(DProT)	N.D.	N.D.	0.5
Butyl tin	(BuT)	N.D.	N.D.	0.5
Dibutyl tin	(DBT)	N.D.	N.D.	0.5
Tributyl tin	(TBT)	N.D.	N.D.	0.5
n-Octyl tin	(MOT)	N.D.	N.D.	0.5
Tetrabutyl tin	(TeBT)	N.D.	N.D.	0.5
Di-n-octyl tin	(DOT)	N.D.	N.D.	0.5
Diphenyl tin	(DPhT)	N.D.	N.D.	0.5
Triphenyl tin	(TPhT)	N.D.	N.D.	0.5

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4. Nitrosamines content

With reference to EN 71-12:2016 clause 7.3, clause 8 & clause 9.2. Analysis was performed by LC-MS-MS.

Toys and parts of toys made from elastomers intended for use by children under 36 months but not intended or likely to be placed into the mouth

Test Item(s)	Results(s) (mg/kg)		MDL (mg/kg)	Permissible Limit (mg/kg)
	1~3	7~9		
Specimen No.	1~3	7~9	---	---
N-nitrosodiethanolamine (NDELA)	N.D.	N.D.	0.01	
N-Nitrosodimethylamine (NDMA)	N.D.	N.D.	0.01	
N-Nitrosodiethylamine (NDEA)	N.D.	N.D.	0.01	
N-Nitrosodipropylamine (NDPA)	N.D.	N.D.	0.01	
N-nitrosodiisopropylamine (NDiPA)	N.D.	N.D.	0.01	
N-nitrosodibutylamine(NDBA)	N.D.	N.D.	0.01	
N-nitrosodiisobutylamine (NDiBA)	N.D.	N.D.	0.01	
N-nitrosodiisononylamine (NDiNA)	N.D.	N.D.	0.01	
N-nitrosomorpholine(NMOR)	N.D.	N.D.	0.01	
N-nitrosopiperidine (NPIP)	N.D.	N.D.	0.01	
N-nitrosodibenzylamine(NDBzA)	N.D.	N.D.	0.01	
N-nitroso-N-methyl-N-phenylamine (NMPPhA)	N.D.	N.D.	0.01	
N-nitroso-N-ethyl-N-phenylamine (NEPhA)	N.D.	N.D.	0.01	
Sum of N-Nitrosamines	N.D.	N.D.	--	0.05
N-nitrosatable substances	N.D.	N.D.	0.1	1.0

5. Cadmium content

Plastic

Method: With reference to BS EN 1122: 2001, Method B and performed by ICP – AES

<u>Test item</u>	<u>Unit</u>	<u>MDL</u>	<u>4</u>	<u>10</u>	<u>Limit</u>
Cadmium (Cd)	mg/kg	2	N.D.	N.D.	See Note 4

6. Polycyclic Aromatic Hydrocarbons contents

With reference to AfPS GS 2014:01 PAK method. Analysis was performed by GC/MS.

<u>Test items</u>	<u>Unit</u>	<u>MDL</u>	<u>4</u>	<u>10</u>	<u>Limit</u>
Benzo[a]pyrene (CAS No.: 50-32-8)	mg/kg	0.2	N.D.	N.D.	0.5
Benzo[e]pyrene (CAS No.: 192-97-2)		0.2	N.D.	N.D.	0.5
Benzo[a]anthracene (CAS No.: 56-55-3)		0.2	N.D.	N.D.	0.5
Chrysene (CAS No.: 218-01-9)		0.2	N.D.	N.D.	0.5
Benzo[b]fluoranthene (CAS No.: 205-99-2)		0.2	N.D.	N.D.	0.5
Benzo[j]fluoranthene (CAS No.: 205-82-3)		0.2	N.D.	N.D.	0.5
Benzo[k]fluoranthene (CAS No.: 207-08-9)		0.2	N.D.	N.D.	0.5
Dibenzo[a,h]anthracene (CAS No.: 53-70-3)		0.2	N.D.	N.D.	0.5

7. Phthalate content

Method: With reference to EN 14372: 2004 method. Analysis was performed by GC/MS.

<u>Test items</u>	<u>Unit</u>	<u>MDL</u>	<u>4</u>	<u>10</u>	<u>Permissible Limit</u>
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	0.1%
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	
Di-(2-ethylhexyl)Phthalate (DEHP)	%	0.003	N.D.	N.D.	
Diisononyl Phthalate (DINP)	%	0.01	N.D.	N.D.	0.1%
Di-n-octyl Phthalate (DNOP)	%	0.003	N.D.	N.D.	
Diisodecyl Phthalate (DIDP)	%	0.01	N.D.	N.D.	
Di-iso-Butyl phthalate(DIBP)	%	0.003	N.D.	N.D.	-

8. Organic-tin compounds content

With reference to ISO 17353. Analysis was performed by GC/FPD.

<u>Test Items</u>	<u>Unit</u>	<u>MDL</u>	<u>Test Results</u>		<u>Limit</u>
			<u>4</u>	<u>10</u>	
Tributyl Tin (TBT)	ppm(mg/kg)	0.03	N.D.	N.D.	1000
Triphenyl Tin (TphT)	ppm(mg/kg)	0.03	N.D.	N.D.	1000
Dibutyl Tin (DBT)	ppm(mg/kg)	0.03	N.D.	N.D.	1000
Diocetyl Tin (DOT)	ppm(mg/kg)	0.03	N.D.	N.D.	1000

9. Bisphenol A content

Sample preparation with reference to EN71-10: 2005 followed by analysis with reference to EN71-11: 2005.

<u>Test Items</u>	<u>CAS NO.</u>	<u>Test Results</u>		<u>LOQ/LOD</u>	<u>Limit</u>	<u>Unit</u>
		<u>4</u>	<u>10</u>			
Bisphenol A	000080-05-7	N.D.	N.D.	0.04	0.05	ppm(mg/L)

10. Flame Retardants content

With reference to US EPA 3550C (2007). Analysis was performed by GC/MS.

<u>Test items</u>	<u>CAS NO.</u>	<u>MDL</u>	<u>4</u>	<u>10</u>	<u>Limit</u>
Tris (2-chloroethyl) phosphate (TCEP)	115-96-8	5	N.D.	N.D.	5
Tris(1-chloro-2-propyl) phosphate (TCPP)	13674-84-5	5	N.D.	N.D.	5
Tris(1,3-dichloro-2-propyl)phosphate (TDCPP)	13674-87-8	5	N.D.	N.D.	5

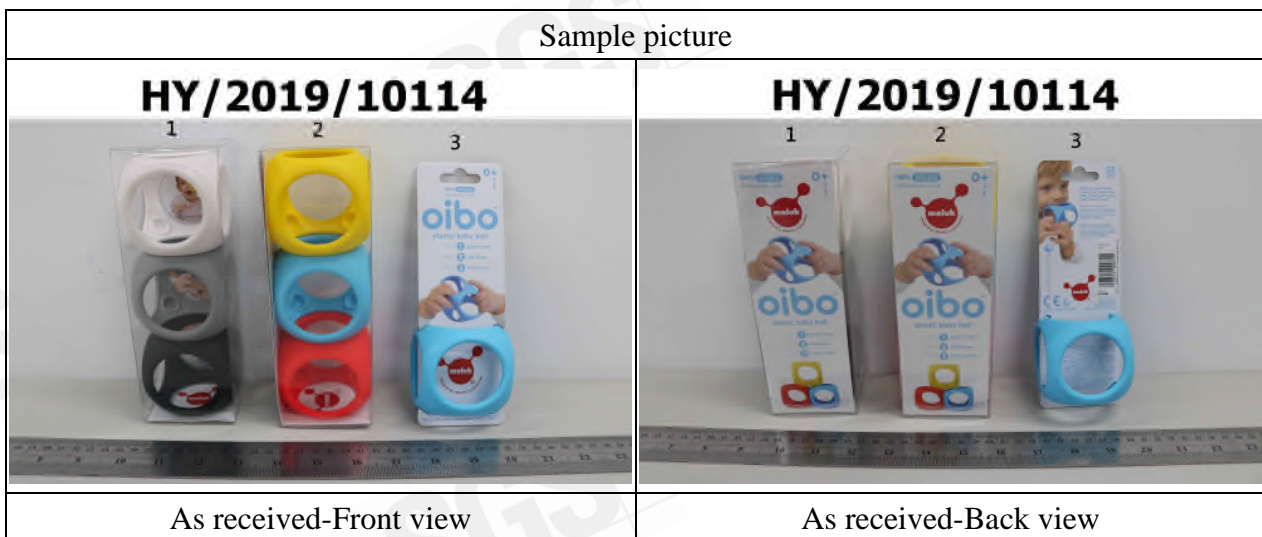
11. Cadmium, Lead, Mercury and Hexavalent Chromium Cr (VI) contents (94/62/EC)

<u>Test items</u>	<u>Unit</u>	<u>MDL</u>	<u>5~6</u>	<u>Limit</u>
Cadmium (Cd)	mg/kg	2	N.D.	-
Lead (Pb)		2	N.D.	-
Mercury (Hg)		2	N.D.	-
Hexavalent Chromium Cr(VI) By alkaline extraction		2	N.D.	-
Total Cadmium + Lead + Mercury + Hexavalent Chromium Cr (VI)		-	N.D.	100

Description:

1. Yellow silicone of sample.
2. Red silicone of sample.
3. Blue silicone of sample.
4. Composite of yellow, red, blue silicone of sample.
5. Multicolored printing paper of sample.
6. Transparent plastic of sample.
7. White silicone of sample.
8. Grey silicone of sample.
9. Black silicone of sample.
10. Composite of white, grey, black silicone of sample.

- Note:
1. mg/kg = ppm
 2. N.D. = not detected
 3. RL= Reporting Limit
 4. MDL =Method Detection Limit
 5. “-“ = Not Regulated
 6. The chemical analysis was conducted in SGS Taiwan Ltd. Chemical Laboratory-Taipei/ SGS Taiwan Ltd. Ultra Trace Industrial Safety Hygiene / SGS Hong Kong Ltd.



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<p style="text-align: center;">Opened view</p>	<p style="text-align: center;">Packaging information</p>
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