



**CENTRE OF TESTING SERVICE
INTERNATIONAL**

OPERATE ACCORDING TO ISO/IEC 17025

TOY SAFETY TEST REPORT

TEST REPORT NUMBER : C3191220032-T



CTS (Ningbo) Testing Service Technology Co., Ltd.
Fl.1 & 8 West, Bldg. B, No. 66, Qingyi Rd., Hi-Tech Zone, Ningbo,
Zhejiang, China.

Report No.: C3191220032-T

Page 1 of 11

Date: 02 Jan. 2020

TEST REPORT

Applicant:	MID OCEAN BRANDS B.V.
Address:	7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer:	111041
Samples:	SET OF 6 CRAYONS SET
Sample Description:	SET OF 6 CRAYONS SET
Item No.:	IT1329
Sample Quantity:	2 Sets
Date of Sample Received:	23 Dec. 2019
Test Address:	CTS (Ningbo) Testing Service Technology Co., Ltd. Fl.1 & 8 West, Bldg. B, No. 66, Qingyi Rd.,Hi-Tech Zone, Ningbo, Zhejiang, China
Testing Period:	23 Dec. 2019 - 27 Dec. 2019
Test Requested:	EN 71-1: 2014+A1:2018 Safety of toys— Part 1: Mechanical and physical properties EN 71-2: 2011+A1:2014 Safety of toys—Part 2: Flammability EN 71-3: 2019 Safety of toys—Part 3: Migration of Certain Elements
Labeled Age Grade:	/
Client Specified Age Grade:	For ages 3 up
Test Age Grade:	For ages 3 up
Test Method:	As specified in the above standards
Test Results:	See the attachment in detail

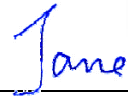
Written by:



Reviewed by:



Approved by:




Date:

02 Jan. 2020

Date:

02 Jan. 2020

Date:

02 Jan. 2020

TEST REPORT

Test Results:

(1) Mechanical and Physical Properties

As Specified in European Standard on Safety of Toys EN 71-1: 2014+A1:2018

EN 71-1: 2014+A1:2018			
Clause	Test Item	Remark	Verdict
4	General requirements		—
4.1	Material cleanliness	No stain	P
4.2	Assembly	---	N
4.3	Flexible plastic sheeting	---	N
4.4	Toy bags	---	N
4.5	Glass	---	N
4.6	Expanding materials	---	N
4.7	Edges	---	P
4.8	Points and metallic wires	---	P
4.9	Protruding parts	---	N
4.10	Parts moving against each other	---	N
4.11	Mouth-actuated toys and other toys intended to be put in the mouth	---	N
4.12	Balloons	---	N
4.13	Cords of toy kites and other flying toys	---	N
4.14	Enclosures	---	N
4.15	Toys intended to bear the mass of a child	---	N
4.16	Heavy immobile toys	---	N
4.17	Projectile toys	---	N
4.18	Aquatic toys and inflatable toys	---	N
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	---	N
4.20	Acoustics	---	N
4.21	Toys containing a non-electrical heat source	---	N
4.22	Small balls	---	N
4.23	Magnets	---	N
4.24	Yo-yo balls	---	N
4.25	Toys attached to food	---	N
4.26	Toy Disguise Costumes	---	N

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EN 71-1: 2014+A1:2018			
Clause	Test Item	Remark	Verdict
4.27	Flying toys	---	N
5	Toys intended for children under 36 months	---	---
5.1	General requirements	---	N
5.2	Soft-filled toys and soft-filled parts of a toy	---	N
5.3	Plastic sheeting	---	N
5.4	Cords, chains and electrical cables in toys	---	N
5.5	Liquid-filled toys	---	N
5.6	Speed limitation of electrically-driven ride-on toys	---	N
5.7	Glass and porcelain	---	N
5.8	Shape and size of certain toys	---	N
5.9	Toys comprising monofilament fibres	---	N
5.10	Small balls	---	N
5.11	Play figures	---	N
5.12	Hemispheric-shaped toys	---	N
5.13	Suction cups	---	N
5.14	Straps intended to be worn fully or partially around the neck	---	N
5.15	Sledges with cords for pulling	---	N
6	Packaging	---	N
7	Warnings, markings and instructions for use	---	---
7.1	General	---	P
7.2	Toys not intended for children under 36 months	---	P
7.3	Latex balloons	---	N
7.4	Aquatic toys	---	N
7.5	Functional toys	---	N
7.6	Hazardous sharp functional edges and points	---	N
7.7	Projectile toys	---	N
7.8	Imitation protective masks and helmets	---	N

TEST REPORT

EN 71-1: 2014+A1:2018			
Clause	Test Item	Remark	Verdict
7.9	Toy kites	---	N
7.10	Roller skates, inline skates, skateboards and certain other ride-on toys	---	N
7.11	Toys otherwise intended to be strung across a cradle, cot, or perambulator	---	N
7.12	Liquid-filled teethingers	---	N
7.13	Percussion caps specifically designed for use in toys	---	N
7.14	Acoustics	---	N
7.15	Toy bicycles	---	N
7.16	Toys intended to bear the mass of a child	---	N
7.17	Toys comprising monofilament fibres	---	N
7.18	Toy scooters	---	N
7.19	Rocking horses and similar toys	---	N
7.20	Magnetic/electrical experimental sets	---	N
7.21	Toys with electrical cables exceeding 300 mm in length	---	N
7.22	Toys with cords or chains intended for children of 18 months and over but under 36 months	---	N
7.23	Toys intended to be attached to a cradle, cot or perambulator	---	N
7.24	Sledges with cords for pulling	---	N
7.25	Flying toys	---	N
7.26	Improvised projectiles	---	N

Abbreviation : P = Pass ; N = Not Applicable

Note:

1. With the client's prior consent, EN 71-1: 2014+A1:2018 was subcontracted test item.
2. The sample is tested as "For ages 3 up" per the client's request.
3. All test results are only valid for the samples being tested.

TEST REPORT

(2) Flammability Test

As Specified in European Standard on Safety of Toys EN 71-2: 2011+A1:2014

EN 71-2: 2011+A1:2014			
Clause	Requirement – Test	Remark	Verdict
4	Requirements		—
4.1	General requirements	---	P
4.2	Toys to be worn on the head	---	N
4.3	Toy disguise costumes and toys intended to be worn by a child in play	---	N
4.4	Toys intended to be entered by a child	---	N
4.5	Soft-filled toys	---	N

Abbreviation : P = Pass ; N = Not Applicable

Note:

1. With the client's prior consent, EN 71-2: 2011+A1:2014 was subcontracted test item.
2. All test results are only valid for the samples being tested.

TEST REPORT

(3) Migration of Certain Elements

With reference to EN 71-3:2019

Category III

Element	Unit	Limit	Result			
			No.1	No.2	No.3	No.4
Extractable Aluminium (Al)	mg/kg	70,000	<50	<50	<50	<50
Extractable Antimony (Sb)	mg/kg	560	<5	<5	<5	<5
Extractable Arsenic (As)	mg/kg	47	<5	<5	<5	<5
Extractable Barium (Ba)	mg/kg	18,750	<50	<50	<50	<50
Extractable Boron (B)	mg/kg	15,000	<50	<50	<50	<50
Extractable Cadmium (Cd)	mg/kg	17	<3	<3	<3	<3
Extractable Chromium (III) (Cr (III))	mg/kg	460	<0.02 [®]	<0.02 [®]	<0.02 [®]	<0.02 [®]
Extractable Chromium (VI) (Cr (VI))	mg/kg	0.053	<0.02 [®]	<0.02 [®]	<0.02 [®]	<0.02 [®]
Extractable Cobalt (Co)	mg/kg	130	<5	<5	<5	<5
Extractable Copper (Cu)	mg/kg	7,700	<50	<50	<50	<50
Extractable Lead (Pb)	mg/kg	23	<5	<5	<5	<5
Extractable Manganese (Mn)	mg/kg	15,000	<50	<50	<50	<50
Extractable Mercury (Hg)	mg/kg	94	<5	<5	<5	<5
Extractable Nickel (Ni)	mg/kg	930	<5	<5	<5	<5
Extractable Selenium (Se)	mg/kg	460	<5	<5	<5	<5
Extractable Strontium (Sr)	mg/kg	56,000	<50	<50	<50	<50
Extractable Tin (Sn)	mg/kg	180,000	<5	<5	<5	<5
Extractable Organic Tin	mg/kg	12	<12 [#]	<12 [#]	<12 [#]	<12 [#]
Extractable Zinc (Zn)	mg/kg	46,000	<50	<50	<50	<50

TEST REPORT

Element	Unit	Limit	Result		
			No.5	No.6	No.7
Extractable Aluminium (Al)	mg/kg	70,000	<50	<50	<50
Extractable Antimony (Sb)	mg/kg	560	<5	<5	<5
Extractable Arsenic (As)	mg/kg	47	<5	<5	<5
Extractable Barium (Ba)	mg/kg	18,750	<50	<50	<50
Extractable Boron (B)	mg/kg	15,000	<50	<50	<50
Extractable Cadmium (Cd)	mg/kg	17	<3	<3	<3
Extractable Chromium (III) (Cr (III))	mg/kg	460	<0.02 [®]	<0.02 [®]	<0.02 [®]
Extractable Chromium (VI) (Cr (VI))	mg/kg	0.053	<0.02 [®]	<0.02 [®]	<0.02 [®]
Extractable Cobalt (Co)	mg/kg	130	<5	<5	<5
Extractable Copper (Cu)	mg/kg	7,700	<50	<50	<50
Extractable Lead (Pb)	mg/kg	23	<5	<5	<5
Extractable Manganese (Mn)	mg/kg	15,000	<50	<50	<50
Extractable Mercury (Hg)	mg/kg	94	<5	<5	<5
Extractable Nickel (Ni)	mg/kg	930	<5	<5	<5
Extractable Selenium (Se)	mg/kg	460	<5	<5	<5
Extractable Strontium (Sr)	mg/kg	56,000	<50	<50	<50
Extractable Tin (Sn)	mg/kg	180,000	<5	<5	<5
Extractable Organic Tin	mg/kg	12	<12 [#]	<12 [#]	<12 [#]
Extractable Zinc (Zn)	mg/kg	46,000	<50	<50	<50

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TEST REPORT

Category I

Element	Unit	Limit	Result		
			No.8	No.9	No.10
Extractable Aluminium (Al)	mg/kg	5625	178	<50	<50
Extractable Antimony (Sb)	mg/kg	45	<5	<5	<5
Extractable Arsenic (As)	mg/kg	3.8	<3	<3	<3
Extractable Barium (Ba)	mg/kg	1500	98	<50	<50
Extractable Boron (B)	mg/kg	1200	<50	<50	<50
Extractable Cadmium (Cd)	mg/kg	1.3	<1	<1	<1
Extractable Chromium (III) (Cr (III))	mg/kg	37.5	<0.02 [@]	<0.02 [@]	<0.02 [@]
Extractable Chromium (VI) (Cr (VI))	mg/kg	0.02	<0.02 [@]	<0.02 [@]	<0.02 [@]
Extractable Cobalt (Co)	mg/kg	10.5	<5	<5	<5
Extractable Copper (Cu)	mg/kg	622.5	<50	<50	<50
Extractable Lead (Pb)	mg/kg	2	<1	<1	<1
Extractable Manganese (Mn)	mg/kg	1200	<50	<50	<50
Extractable Mercury (Hg)	mg/kg	7.5	<5	<5	<5
Extractable Nickel (Ni)	mg/kg	75	<5	<5	<5
Extractable Selenium (Se)	mg/kg	37.5	<5	<5	<5
Extractable Strontium (Sr)	mg/kg	4500	<50	<50	<50
Extractable Tin (Sn)	mg/kg	15000	<1	<1	<1
Extractable Organic Tin	mg/kg	0.9	<0.9 [#]	<0.9 [#]	<0.9 [#]
Extractable Zinc (Zn)	mg/kg	3750	<50	<50	<50

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Element	Unit	Limit	Result		
			No.11	No.12	No.13
Extractable Aluminium (Al)	mg/kg	5625	1.2×10 ³	<50	<50
Extractable Antimony (Sb)	mg/kg	45	<5	<5	<5
Extractable Arsenic (As)	mg/kg	3.8	<3	<3	<3
Extractable Barium (Ba)	mg/kg	1500	<50	<50	<50
Extractable Boron (B)	mg/kg	1200	<50	<50	<50
Extractable Cadmium (Cd)	mg/kg	1.3	<1	<1	<1
Extractable Chromium (III) (Cr (III))	mg/kg	37.5	<0.02 [®]	<0.02 [®]	<0.02 [®]
Extractable Chromium (VI) (Cr (VI))	mg/kg	0.02	<0.02 [®]	<0.02 [®]	<0.02 [®]
Extractable Cobalt (Co)	mg/kg	10.5	<5	<5	<5
Extractable Copper (Cu)	mg/kg	622.5	<50	<50	<50
Extractable Lead (Pb)	mg/kg	2	<1	<1	<1
Extractable Manganese (Mn)	mg/kg	1200	<50	<50	<50
Extractable Mercury (Hg)	mg/kg	7.5	<5	<5	<5
Extractable Nickel (Ni)	mg/kg	75	<5	<5	<5
Extractable Selenium (Se)	mg/kg	37.5	<5	<5	<5
Extractable Strontium (Sr)	mg/kg	4500	<50	<50	<50
Extractable Tin (Sn)	mg/kg	15000	<1	<1	<1
Extractable Organic Tin	mg/kg	0.9	<0.9 [#]	<0.9 [#]	<0.9 [#]
Extractable Zinc (Zn)	mg/kg	3750	<50	<50	<50

Note

- : 1. <= less than
 2. Unit: mg/kg = ppm
 3. Categories of various toy materials

Category I: Dry, brittle, powder like or pliable

Solid toy material from which powder-like material is released during playing and semi-solid materials that may also leave residues on the hands during play. The material can be ingested. Contamination of the hands with the material may contribute to the oral exposure of the material. (e.g. the cores of colouring pencils, chalk, crayons, modelling clays and plaster).

Category II: Liquid or sticky

Fluid or viscous toy material, which can be ingested or to which dermal exposure may occur during playing. (e.g. liquid paints, finger paints, liquid ink in pens, glue sticks, slimes, bubble solution).

Category III : Scraped-off

Solid toy material with or without a coating, which can be ingested as a result of biting, tooth scraping, sucking or licking. (e.g. coatings,

TEST REPORT

lacquers, plastics, paper, textiles, glass, ceramic, metallic, wooden, bone, leather and other materials).

4. @Results of Cr III and Cr VI were reported as sum of soluble Chromium content.

5. #Result(s) of organic tin was (were) reported as soluble tin content.

6. If total tin content in sample exceeds 0.369mg/kg in I mat., 0.082mg/kg in II mat., or 4.915mg/kg in III mat., the sample is required for organic tin analysis.

Test Part Description :

No.1	:	Red plastic base
No.2	:	Yellow plastic base
No.3	:	Sky blue plastic base
No.4	:	Green plastic base
No.5	:	Purple plastic base
No.6	:	Brown plastic base
No.7	:	Transparent plastic
No.8	:	Rosy pink crayon
No.9	:	Red crayon
No.10	:	Yellow crayon
No.11	:	Sky blue crayon
No.12	:	Leaf green crayon
No.13	:	Brown crayon

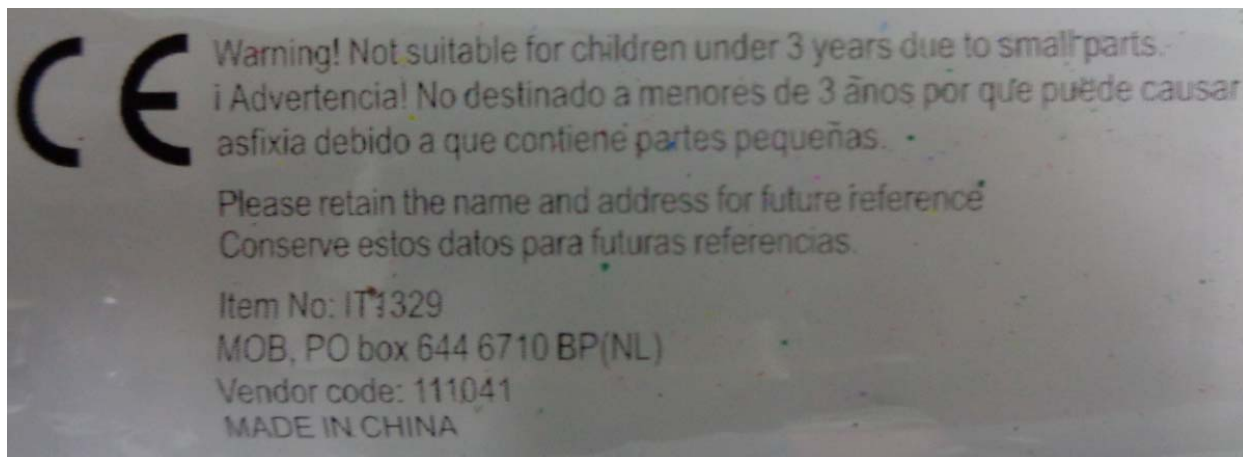
TEST REPORT

APPENDIX

PHOTO OF THE SUBMITTED SAMPLE(S)



External view



Marking

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