

Test Report

Report No.: U02803230830115-4E

Query Password: QW8089

Date: Sep. 13, 2023

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Applicant: HAHOWA CO., Ltd**Contact information:** 21st Floor, Shenzhen Bay Venture Capital Building, Yuehai Street, Nanshan District, Shenzhen City, China.**The following sample(s) was (were) submitted and identified by client as:**

Sample Description : Jigsaw puzzle series
Item No. : Please refer to next page(s).
Packaging Provided : Yes
Labeled Age Grading : 3+
Requested Age Grading : 3+
Age Group Applied in Testing : 3+
Received Date : Sep. 7, 2023
Testing Period : From Sep. 7, 2023 to Sep. 13, 2023
Test Request : Please refer to next page(s).
Test Result(s) : Please refer to next page(s).

Shen Zhen UONE Test Co., LTD.

Prepared by



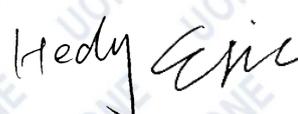
Lili Zeng

Checked by



Thea Ye

Approved by



Hedy Xu/ Eric Yang

Remark:Hedy (Chemistry field) + Eric (Physical field)

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Summary of Test Results(Tested parts are required partially by client):**TEST REQUEST****CONCLUSION**

- | | |
|---|--------------|
| (1) ISO 8124-1:2022 International Standard for Safety of Toys
Mechanical and physical properties | PASS |
| (2) ISO 8124-2: 2023 International Standard for Safety of Toys
Flammability | PASS |
| (3) ISO 8124-3:2020 International Standard for Safety of Toy
Migration of certain elements | PASS |
| (4) Client's Requirement, according to ISO 8124-6: 2018 Certain phthalate esters in toys
and children's products
Phthalate esters | PASS* |

PASS* = Meet the requirement of client

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Item No.:
1001,1002,1003,1004,1005,1006,1007,1008,1009,1010,1011,1012,1013,1014,1015,1016,1017,1018,1019,1020,1021,1022,1023,1024,1025,1026,1027,1028,1029,1030,1031,1032,1033,1034,1035,1036,1037,1038,1039,1040,1060,1061,1062,1063,1064,1065,1066,1067,1068,1069,1070,1225,2001,2002,2003,2004,2005,2006,2008,2009,S1001,S1002,S1003,S1004,S1005,S1006,S1007,S1008,S1009,S1010,S1011,S1012,S1013,S1014,S1015,S1016,S1017,S1018,S1019,S1020,S1021,S1022,S1023,S1024,S1025,S1026,S1027,1027S,S1028,S1029,S1030,S1031,S1032,S1033,S1034,S1035,S1036,S1037,S1038,S1039,S1040,S1225,ST1001,ST1002,ST1003,ST1004,ST1005,T1001,T1002,T1003,T1004,T1005,T1006,T1007,T1008,T1009,T1010,T1011,T1011,T1012,T1225,3100,3101,3102,3103,3104,3105,3106,3107,3108,3109,3120,HD1080,HD1081,HD1082,HD1083,HD1084,HD1085,HD1086,S388,S389,S390,S391,S392,S393,S394,T537,T538,T539

Test Material(s) List

Material No.	Description (Location)	Remark
1	Green plastic	/
2	White plastic	/
3	White PU	/
4	Multi-color coating	/
5	White paper with multi-color coating	/
6	Laminated white/gray cardboard with multi-color	/
7	White double-sided adhesive	/
8	White paper	/

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Test Result(s):

(1) Mechanical and physical properties - ISO 8124-1:2022

Clause	Description	Result
4	Requirements	
4.1	General	PASS
4.1.1	Normal use	PASS
4.1.2	Location of warnings	PASS
4.2	Reasonably foreseeable abuse	PASS
4.3	Material	PASS
4.3.1	Material quality	PASS
4.3.2	Expanding materials	NA
4.4	Small parts	PASS
4.4.1	For children under 36 months	NA
4.4.2	For children 36 months and over but under 72 months	PASS
4.5	Shape, size and strength of certain toys	NA
4.5.1	Squeeze toys, rattles, fasteners and certain other toys and components of toys	NA
4.5.2	Small balls	NA
4.5.3	Pompoms	NA
4.5.4	Pre-school play figures	NA
4.5.5	Toy pacifiers	NA
4.5.6	Balloons	NA
4.5.7	Marbles	NA
4.5.8	Hemispheric-shaped toys	NA
4.6	Edges	PASS
4.6.1	Accessible sharp edges of glass or metal	NA
4.6.2	Functional sharp edges	NA
4.6.3	Edges on metal toys	NA
4.6.4	Edges on moulded toys	PASS
4.6.5	Edges on exposed bolts or threaded rods	NA

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4.7	Points	PASS
4.7.1	Accessible sharp points	PASS
4.7.2	Functional sharp points	NA
4.7.3	Wooden toys	NA
4.8	Projections	NA
4.8.1	General requirements	NA
4.8.2	Special considerations for bath toy projections	NA
4.9	Metal wires and rods	NA
4.10	Plastic film or plastic bags in packaging and in toys	NA
4.11	Cords	NA
4.11.1	General	NA
4.11.2	Cords in toys intended for children under 18 months	NA
4.11.3	Cords in toys intended for children 18 months and over but under 36 months	NA
4.11.4	Fixed loops and nooses intended for children under 36 months	NA
4.11.5	Cords on pull toys	NA
4.11.6	Electrical cables	NA
4.11.7	Diameter of certain cords intended for children under 36 months	NA
4.11.8	Self-retracting cords intended for children under 36 months	NA
4.11.9	Toys attached to or intended to be strung across, or otherwise attached to, a cradle, cot,perambulator or carriage	NA
4.11.10	Cords on toy bags	NA
4.11.11	Cords, strings and lines for flying toys*	NA
4.12	Folding mechanisms	NA
4.12.1	Toy pushchairs, perambulators and similar toys*	NA
4.12.2	Other toys with folding mechanisms*	NA
4.12.3	Hinge-line clearance	NA
4.13	Holes, clearances and accessibility of mechanisms	NA
4.13.1	Circular holes in rigid materials	NA
4.13.2	Accessible clearances for movable segments	NA

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4.13.3	Chains or belts in ride-on toys	NA
4.13.4	Other driving mechanisms	NA
4.13.5	Winding keys	NA
4.14	Springs	NA
4.15	Stability and overload requirements*	NA
4.15.1	Stability of ride-on toys and seats	NA
4.15.2	Overload requirements for ride-on toys and seats	NA
4.15.3	Stability of stationary floor toys	NA
4.16	Enclosures	NA
4.16.1	Ventilation*	NA
4.16.2	Closures*	NA
4.16.3	Toys that enclose the head	NA
4.17	Items that cover the face and simulated protective equipment	NA
4.18	Projectile toys	NA
4.18.1	General	NA
4.18.2	Projectiles	NA
4.18.3	Projectile toys with stored energy	NA
4.18.4	Projectile toys without stored energy	NA
4.19	Flying toys	NA
4.19.1	General	NA
4.19.2	Rotor blades on flying toys	NA
4.19.3	Rotor blades on remote-controlled flying toys	NA
4.20	Aquatic toys*	NA
4.21	Braking*	NA
4.22	Toy Bicycles*	NA
4.22.1	General	NA
4.22.2	Instructions for use	NA
4.22.3	Determination of maximum saddle height	NA
4.22.4	Braking requirements	NA

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4.23	Speed limitation of electrically driven ride-on toys*	NA
4.24	Toys containing a heat source	NA
4.25	Liquid-filled toys	NA
4.26	Mouth-actuated toys*	NA
4.27	Toy roller skate and toy skateboards	NA
4.28	Percussion caps specifically designed for use in toys	NA
4.29	Acoustic requirements	NA
4.30	Toy scooters*	NA
4.30.1	General	NA
4.30.2	Warnings and instructions for use	NA
4.30.3	Strength	NA
4.30.4	Stability	NA
4.30.5	Adjustable and folding steering tubes and handlebars	NA
4.30.6	Braking	NA
4.30.7	Wheel size	NA
4.30.8	Projections	NA
4.31	Magnets and magnetic components	NA
4.31.1	General	NA
4.31.2	Magnetic/electrical experimental sets intended for children 8 years and over	NA
4.31.3	All other toys with magnets and magnetic components	NA
4.32	Yo-yo balls	NA
4.33	Straps intended to be worn fully or partially around the neck	NA
4.34	Sledges and toboggans with cords for pulling	NA
4.35	Jaw entrapment in handles and steering wheels	NA
4.36	Assembly*	NA
4.36.1	General	NA
4.36.2	Toys intended to be assembled by a child	NA
4.36.3	Toys intended to be assembled by an adult	NA
4.36.4	Toys that are intended to be disassembled between uses	NA

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4.37	Functional toys*	NA
4.38	Toys intended to come into contact with food*	NA
4.39	Inflatable toys*	NA
Annex D	Toy gun marking	NA
5	Test methods	PASS
5.23	Washable toys	NA
5.24	Reasonably foreseeable abuse tests	PASS
5.24.2	Drop Test	PASS
5.24.3	Tip-over test for Large and bulky toys	NA
5.24.4	Dynamic strength test for wheeled ride-on toys other than toy scooters	NA
5.24.5	Torque Test	PASS
5.24.6	Tension Test	PASS
5.24.7	Compression Test	NA
5.24.8	Flexure Test	NA
Annex B.2	Safety-labelling guidelines	PASS
B.2.1	Good practice for visibility and legibility	PASS
B.2.2	Age grading	PASS
B.2.3	Toys that are small parts, toys containing small parts and toys with removable small part components	PASS
B.2.4	Balloons	NA
B.2.5	Small balls and marbles	NA
B.2.6	Aquatic toys	NA
B.2.7	Toys intended to come into contact with food	NA
B.2.8	Toys intended to be assembled by an adult	NA
B.2.9	Toys intended to be strung across a cradle, cot, perambulator or carriage	NA
B.2.10	Simulated protective equipment	NA
B.2.11	Toys with functional sharp edges and functional sharp points	NA
B.2.12	Functional toys	NA

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B.2.13	Toy roller skates, toy inline skates and toy skateboards	NA
B.2.14	Toy kites	NA
B.2.15	Toy bicycles	NA
B.2.16	Percussion caps	NA
B.2.17	Toys which produce high peak sound pressure levels	NA
B.2.18	Toy scooters	NA
B.2.19	Magnetic/electrical experimental sets for children 8 years and over	NA
B.2.20	Toys with electrical cables exceeding 300 mm in length	NA
B.2.21	Toys with cords intended for children 18 months and over but under 36 months	NA
B.2.22	Sledges and toboggans with cords for pulling	NA
B.2.23	Toys intended to be attached to a cradle, cot, perambulator or carriage or intended to be suspended over a cot from a wall or ceiling	NA
B.2.24	Flying toys	NA
B.3	Instructional literature	PASS
B.3.1	Information and instructions	PASS
B.3.2	Crib, playpen toys and mobiles	NA
B.3.3	Crib gyms and similar toys	NA
B.3.4	Toy chests	NA
B.3.5	Liquid-filled teethers and liquid-filled teething toys	NA
B.3.6	Toys intended to be assembled by an adult	NA
B.3.7	Projectile toys	NA
B.3.8	Toy bicycles	NA
B.3.9	Toy scooters	NA
B.3.10	Remote-controlled flying toys	NA
B.4	Manufacturer's Markings	PASS

Remark: NA = Not Applicable.

“*”= The Test Item(s) was(were) not got CNAS accreditation.

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(2) Flammability – ISO 8124-2:2023

Section	Test Item	Assessment
4.1	General	PASS
4.2	Toys to be worn on the head	NA
4.2.1	General	NA
4.2.2	Beards, moustaches, wigs, etc, made from pile or flowing elements which protrude 50mm or more from the surface of the toy	NA
4.2.3	Beards, moustaches, wigs, etc, made from pile or flowing elements which protrude less than 50mm from the surface of the toy	NA
4.2.4	Full or partial moulded head masks	NA
4.2.5	Toys to be worn on the head, hoods and headdresses including upward protruding items and masks which partially or fully cover the head	NA
4.3	Toy disguise costumes and toys intended to be worn by a child in play	NA
4.4	Toys intended to be entered by a child	NA
4.5	Soft- filled toys (Remark: Sample was not tested as its maximum dimension is 150mm or less.)	NA

Remark: NA = Not Applicable.

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(3) Migration of certain elements – ISO 8124-3:2020

Test Method: With reference to ISO 8124-3:2020, was analyzed by Inductively Coupled Plasma Atomic Emission Spectrometer (ICP-AES).

Elements	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Conclusion
Limit (mg/kg)	25	1000	75	60	60	90	60	500	
MDL (mg/kg)	2.5	5	5	5	5	5	5	5	
Material No.	Test Result (mg/kg)								
1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
6	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
7	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS
8	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	PASS

- Note:**
1. mg/kg = milligram per kilogram (ppm).
 2. MDL = method detection limit.
 3. N.D.=not detected(less than MDL).

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(4) Phthalate esters – ISO 8124-6: 2018

Test Method: With reference to ISO 8124-6: 2018, analyzed by Gas Chromatograph-Mass Spectrometry (GC-MS).

Test Item	CAS No.	Unit	MDL	Client's Limit	Test Result
					3
Dibutyl phthalate (DBP)	84-74-2	%	0.002	0.1	N.D.
Butyl benzyl phthalate (BBP)	85-68-7	%	0.002	0.1	N.D.
Di(2-ethylhexy) phthalate (DEHP)	117-81-7	%	0.002	0.1	N.D.
Diisobutyl phthalate(DIBP)	84-69-5	%	0.002	0.1	N.D.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.002	0.1	N.D.
Diisodecyl-o-phthalate (DIDP)	26761-40-0 68515-49-1	%	0.004	0.1	N.D.
Di-iso-nonyl phthalate (DINP)	68515-48-0 28553-12-0	%	0.004	0.1	N.D.
Conclusion					PASS

- Note:**
1. % = percentage by weight.
 2. MDL = method detection limit.
 3. N.D.=not detected(less than MDL).

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Photo(s) of Sample:

The following photo(s) is(are) provided by the customer:



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End of Report

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Statement

1. The information as listed on the first page of this test report was all provided by the client except the received date, testing period, test result(s) and test request. The client shall be responsible for the representativeness of sample and authenticity of materials, for which UONE shall bear no responsibilities.
2. Unless otherwise stated the results shown in this report refer only the sample(s) tested and does not bear other joint and several liabilities.
3. This report is considered invalidated without the Special Seal for Inspection of the UONE, This report shall not be altered, increased or deleted.
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5. Objection should be issued in 15 days upon receiving the report, overdue opinion is inadmissible.
6. If the report is not stamped with the accreditation recognized seal, it will only be used for scientific research, education, and internal quality control activities, and is not used for the purpose of issuing supporting data to the society.

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